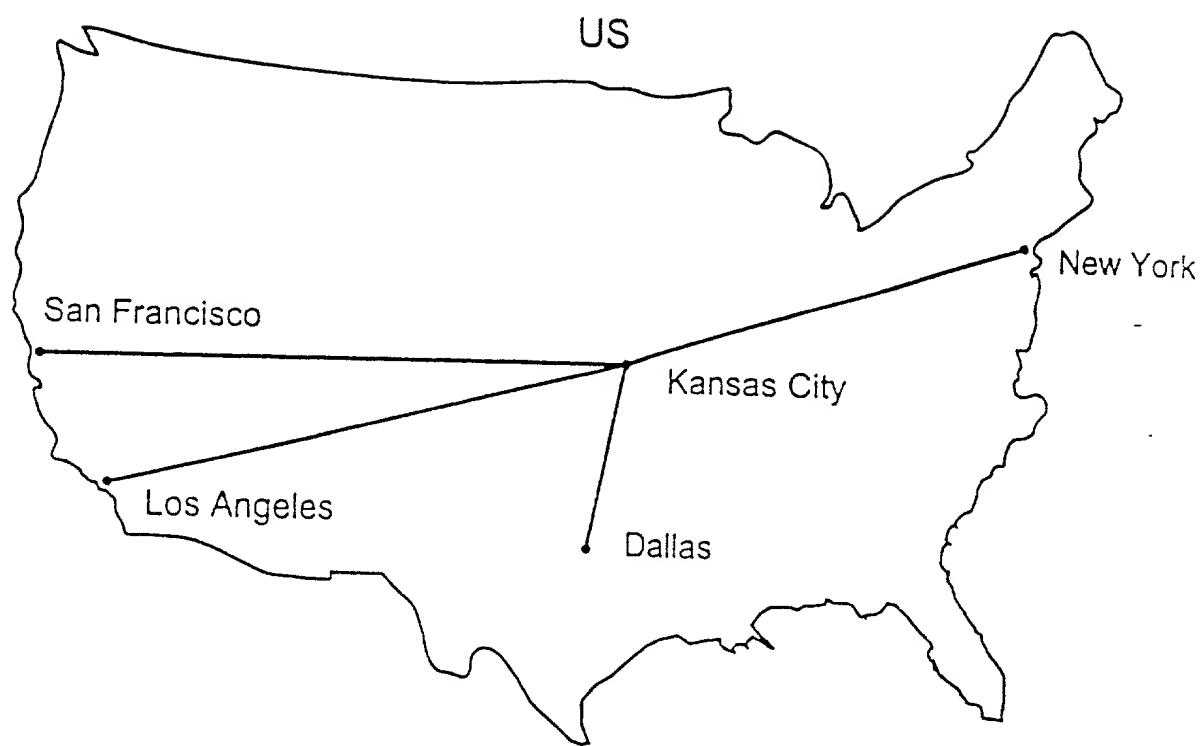


Fig. 1A



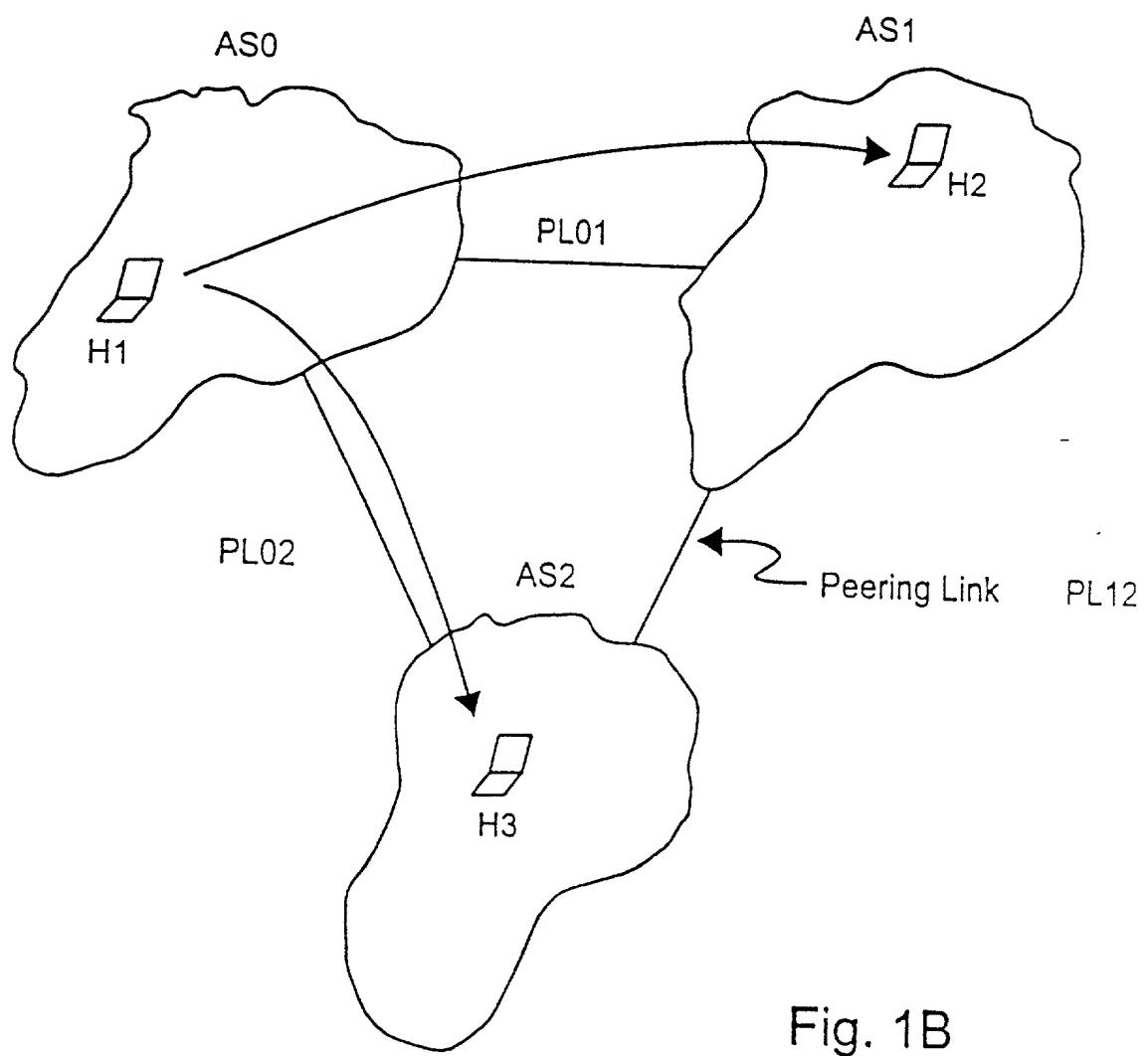


Fig. 1B

2257

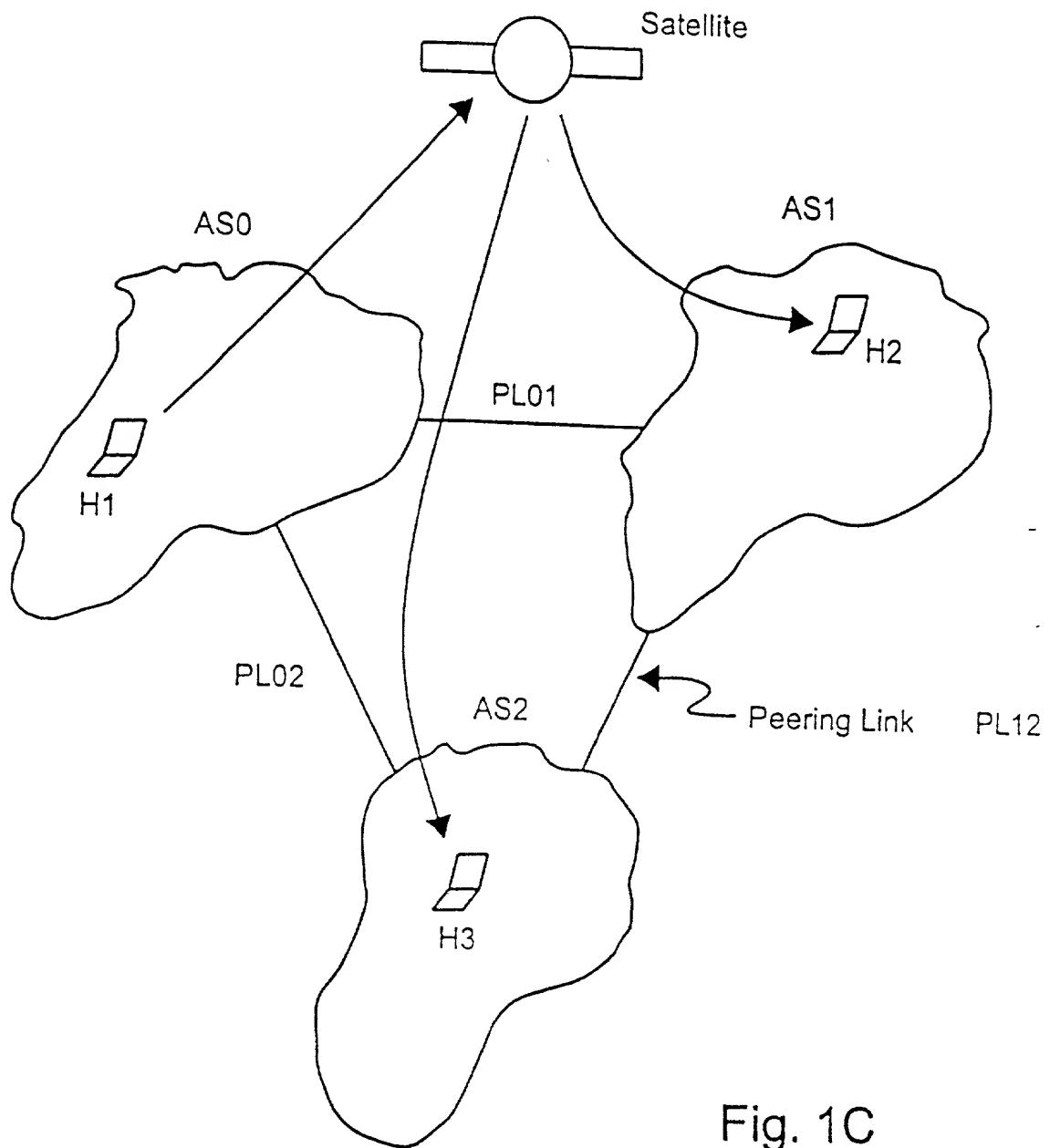


Fig. 1C

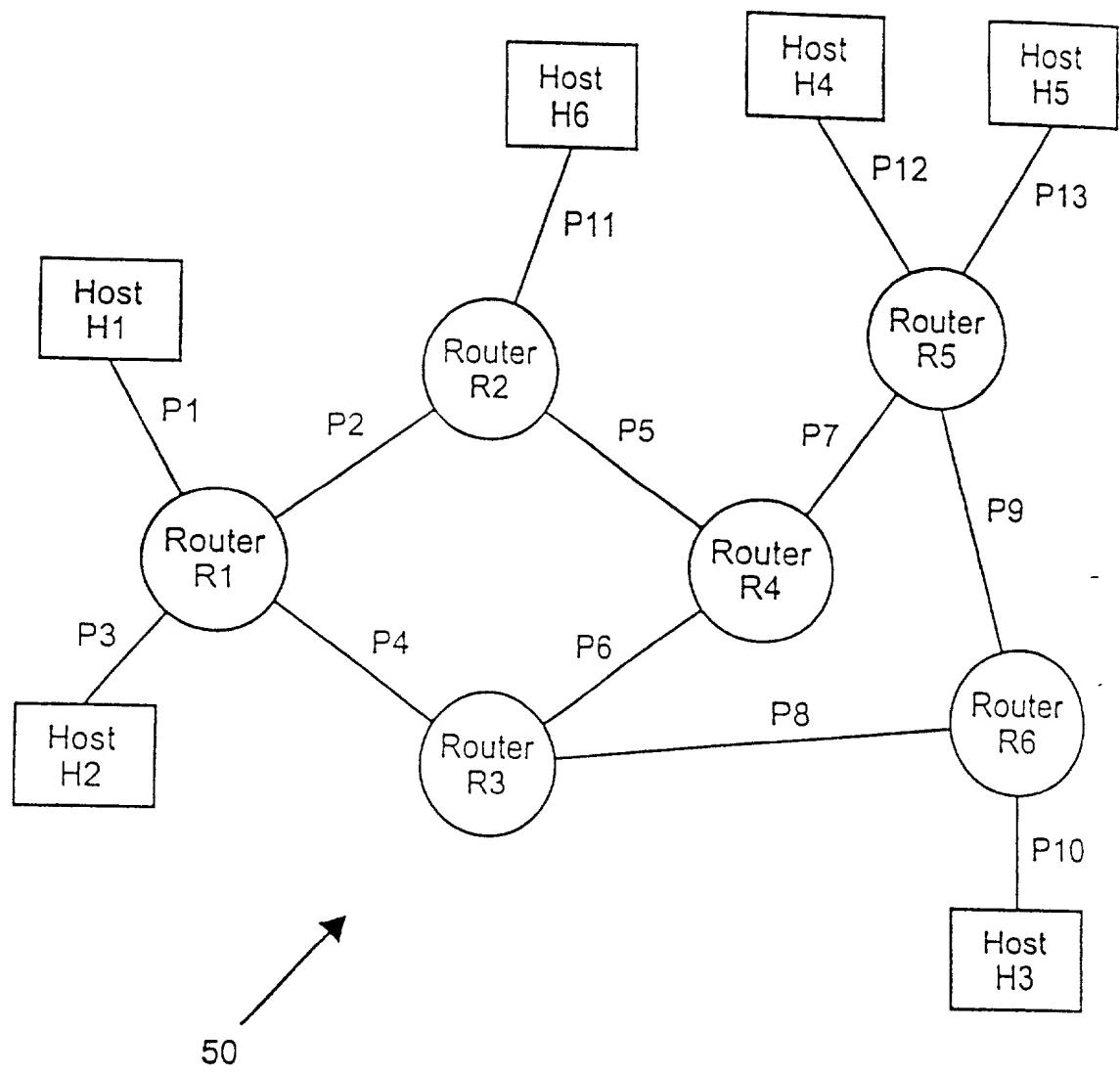


Fig. 1D

Fig. 2

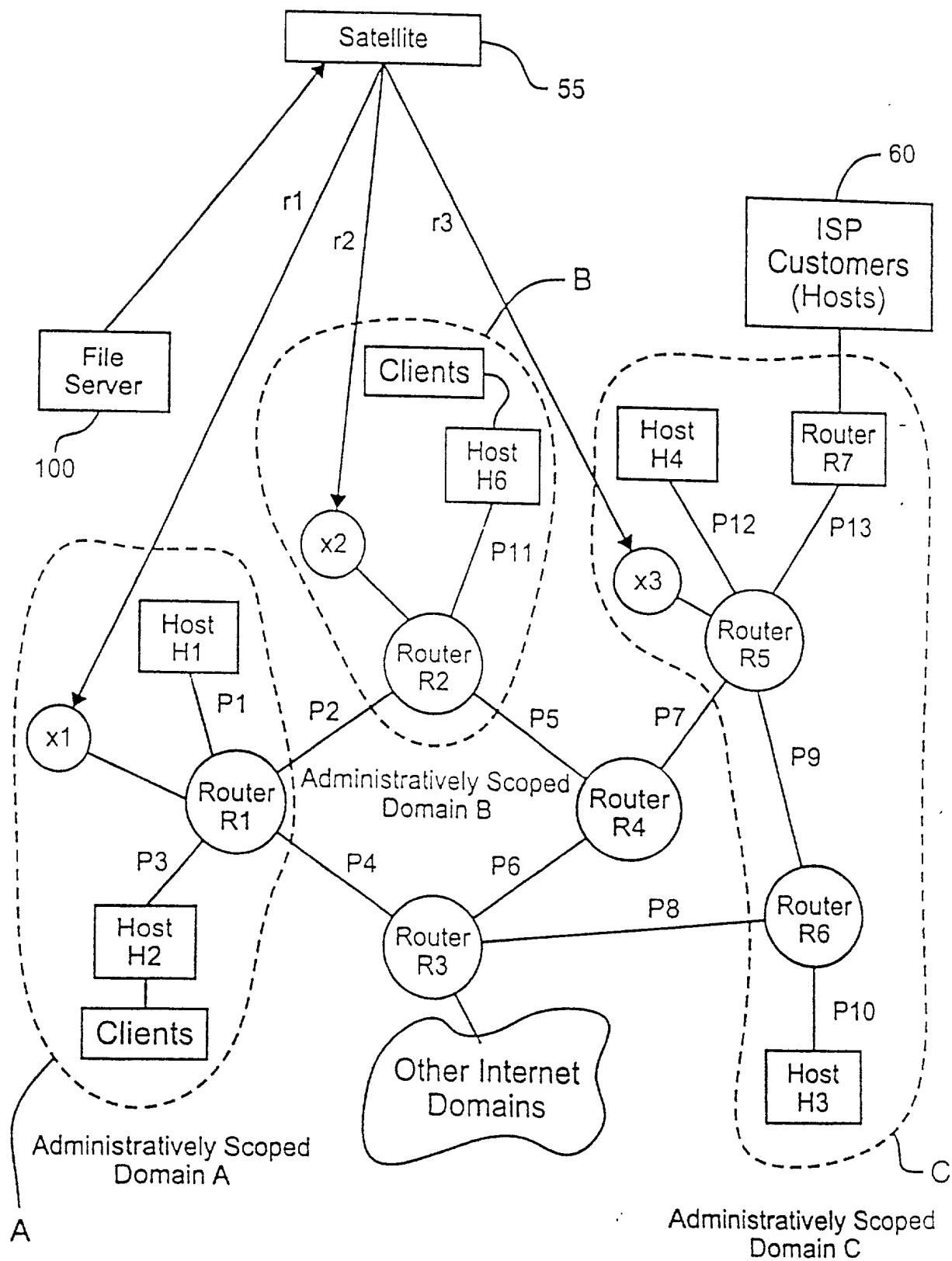
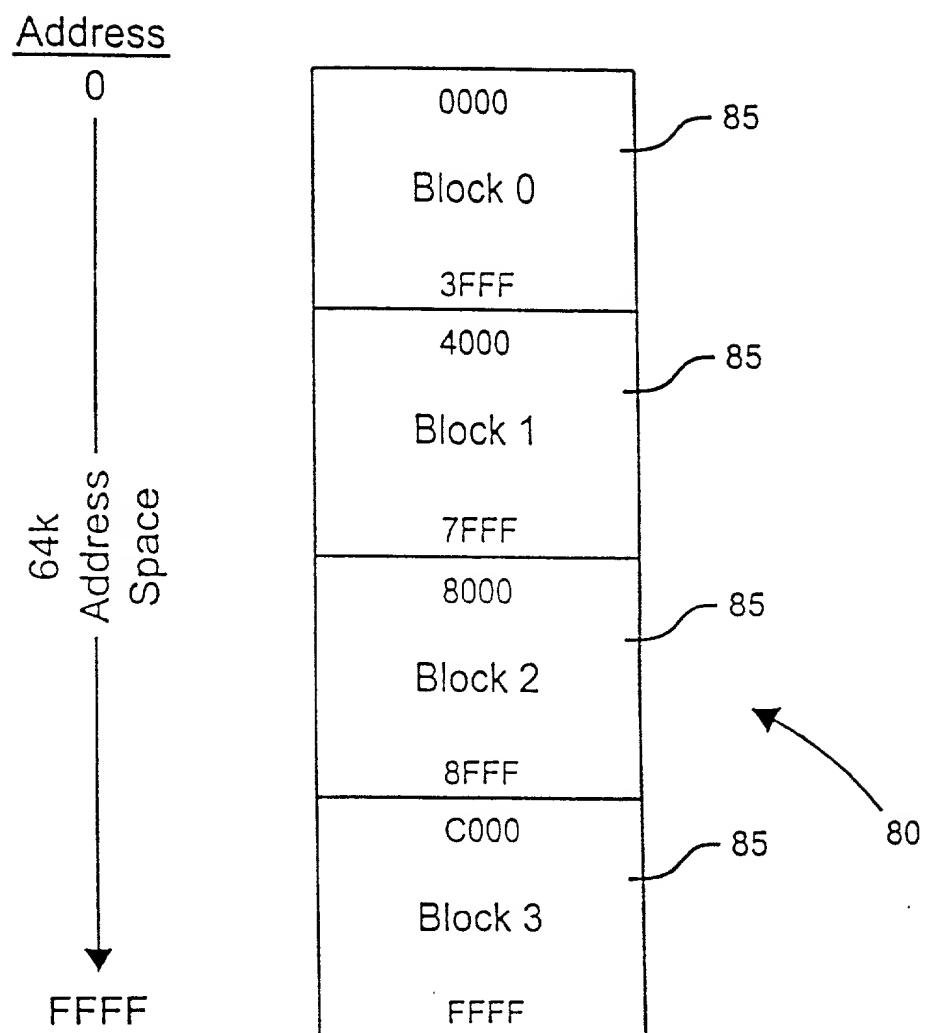


Fig. 3



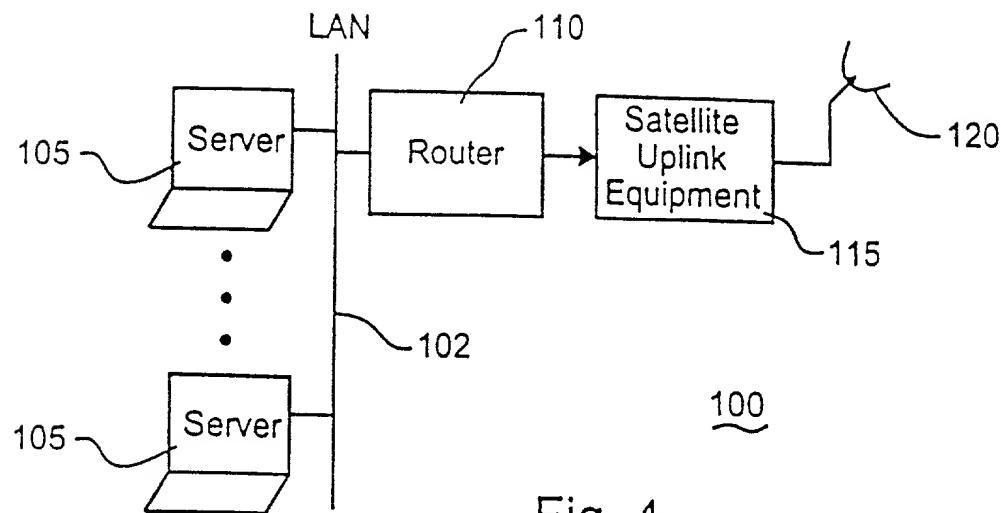


Fig. 4

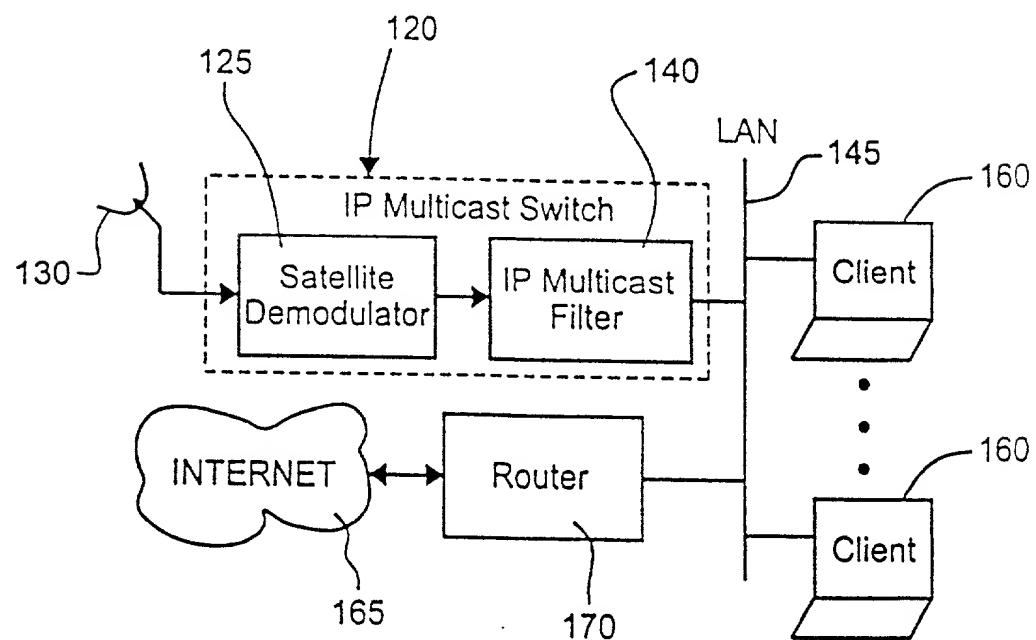
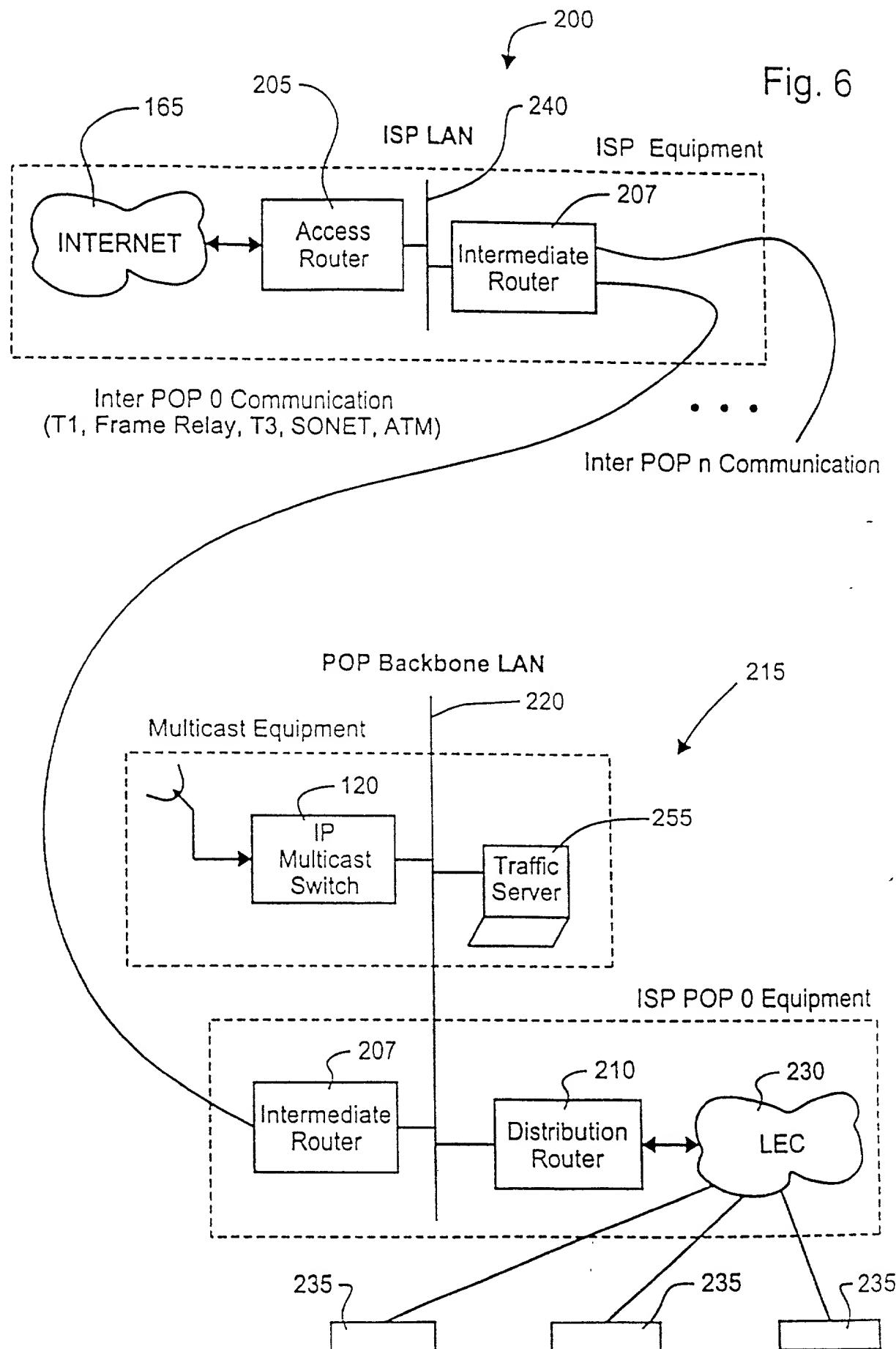


Fig. 5

1015

Fig. 6



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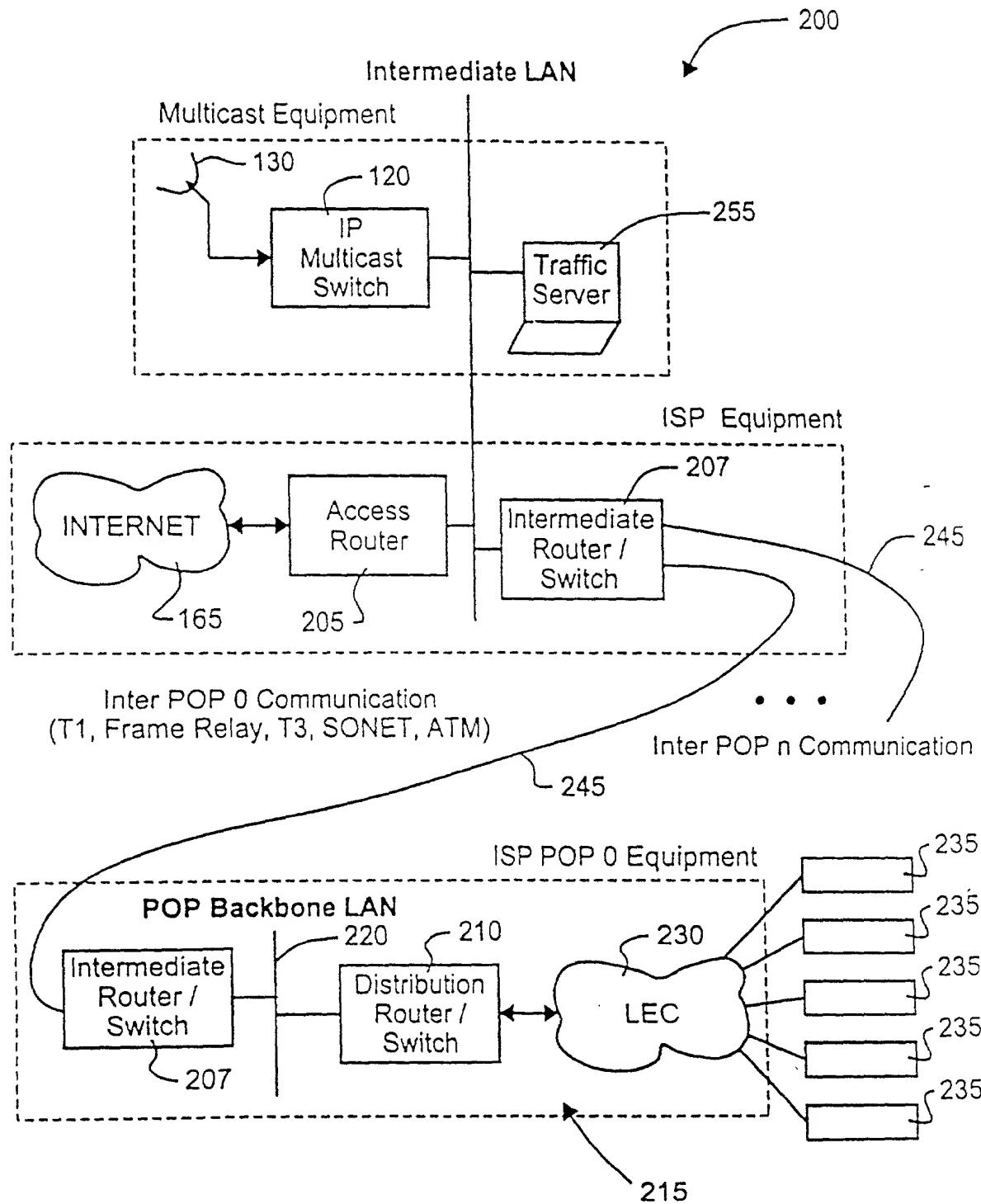
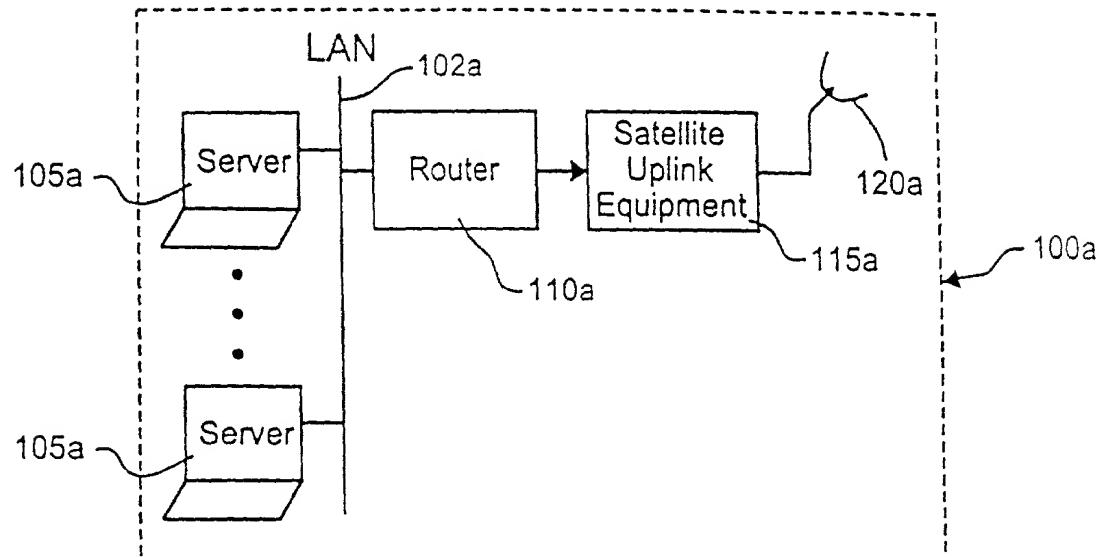
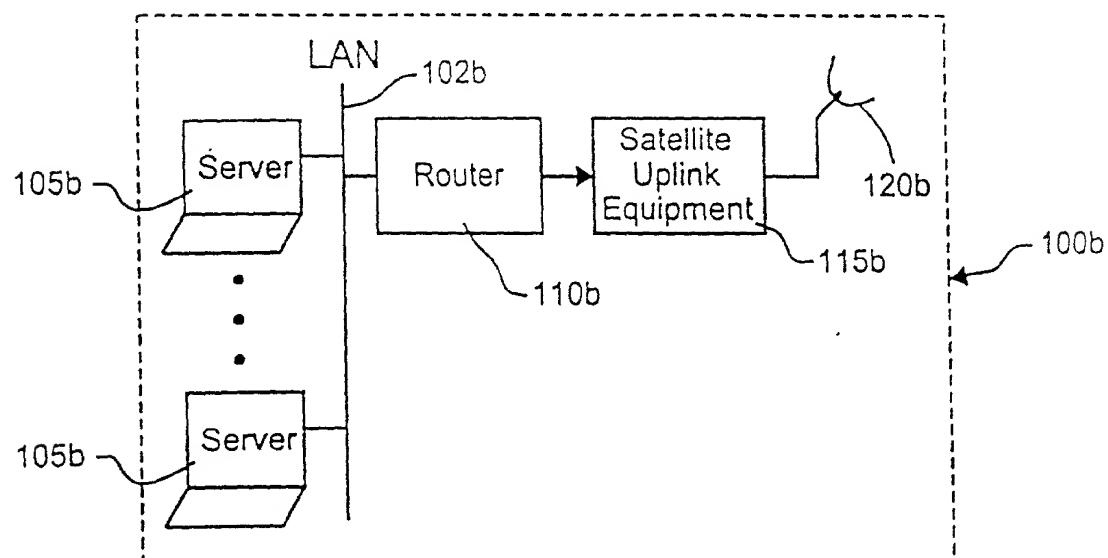


Fig. 7



Transponder 1



Transponder 2

Fig. 8a

10 85

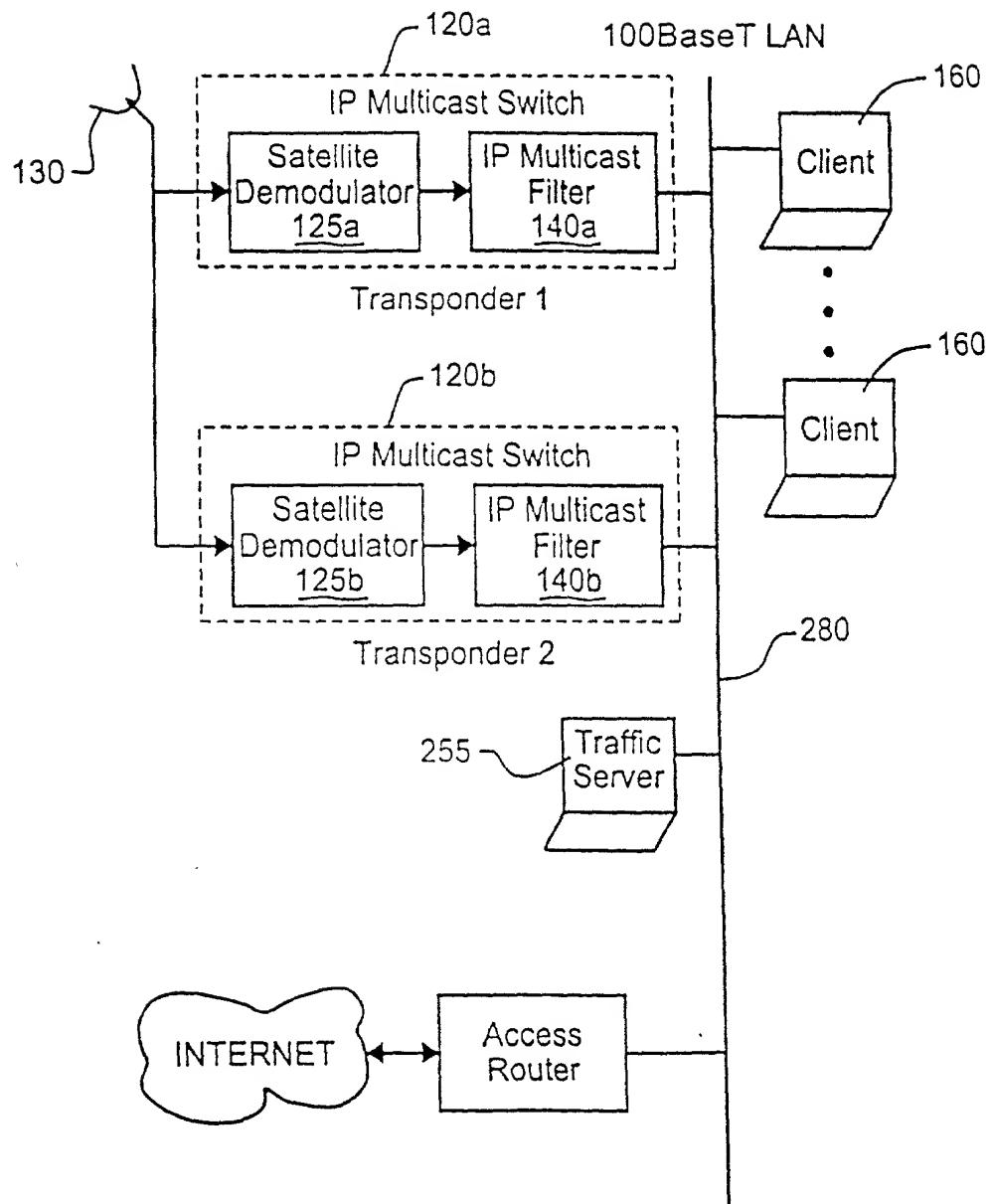


Fig. 8b

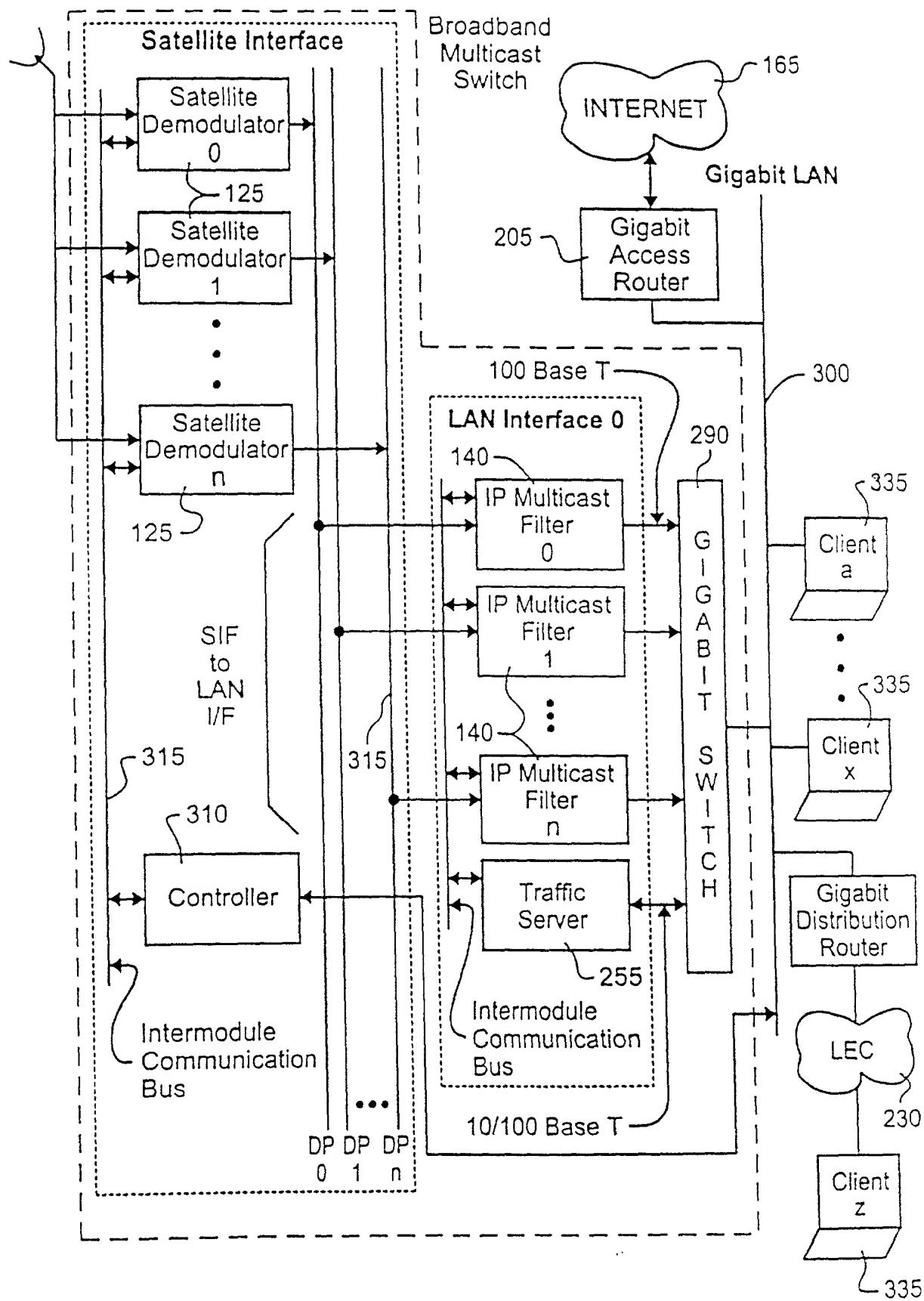


Fig. 9

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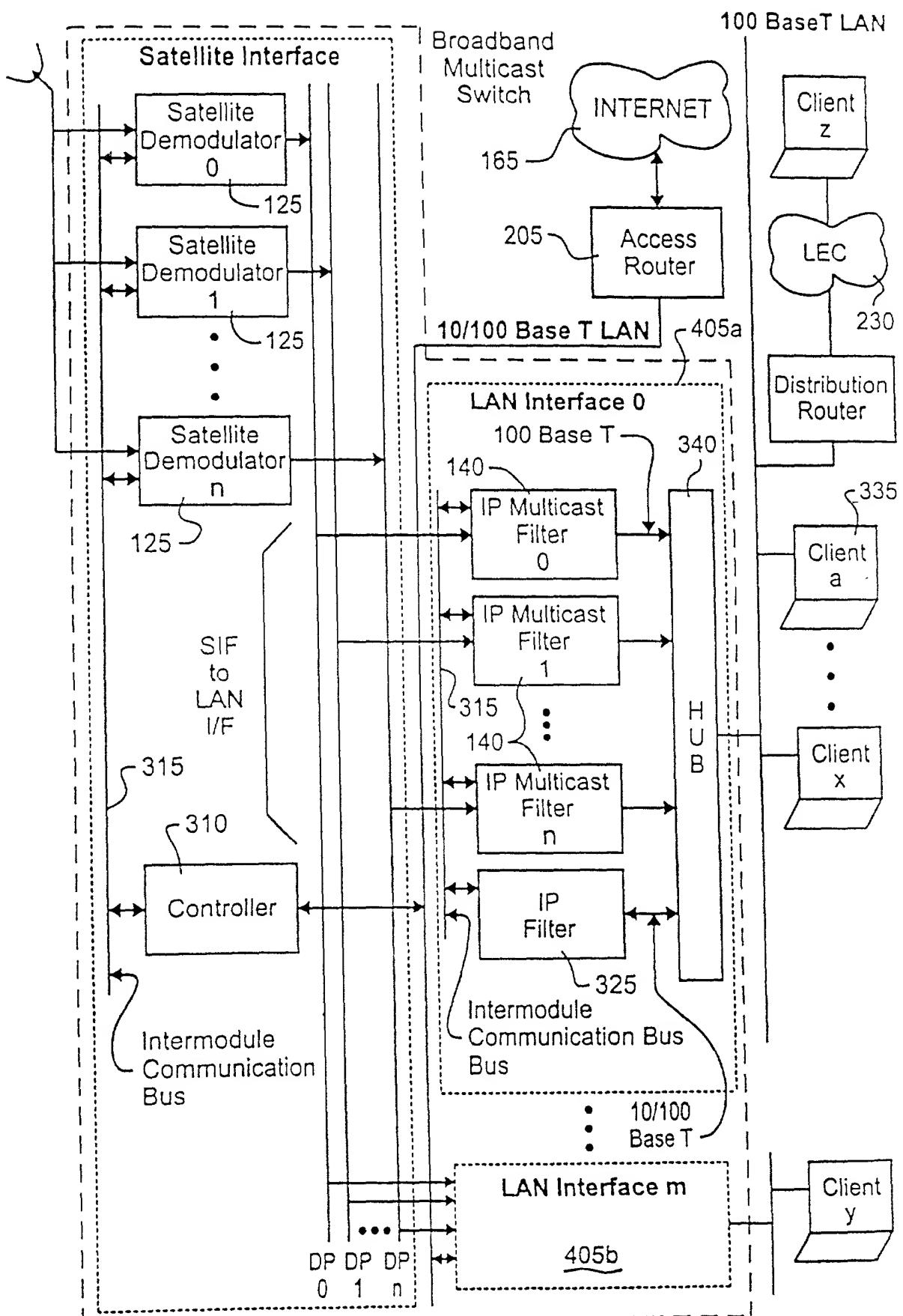


Fig. 10

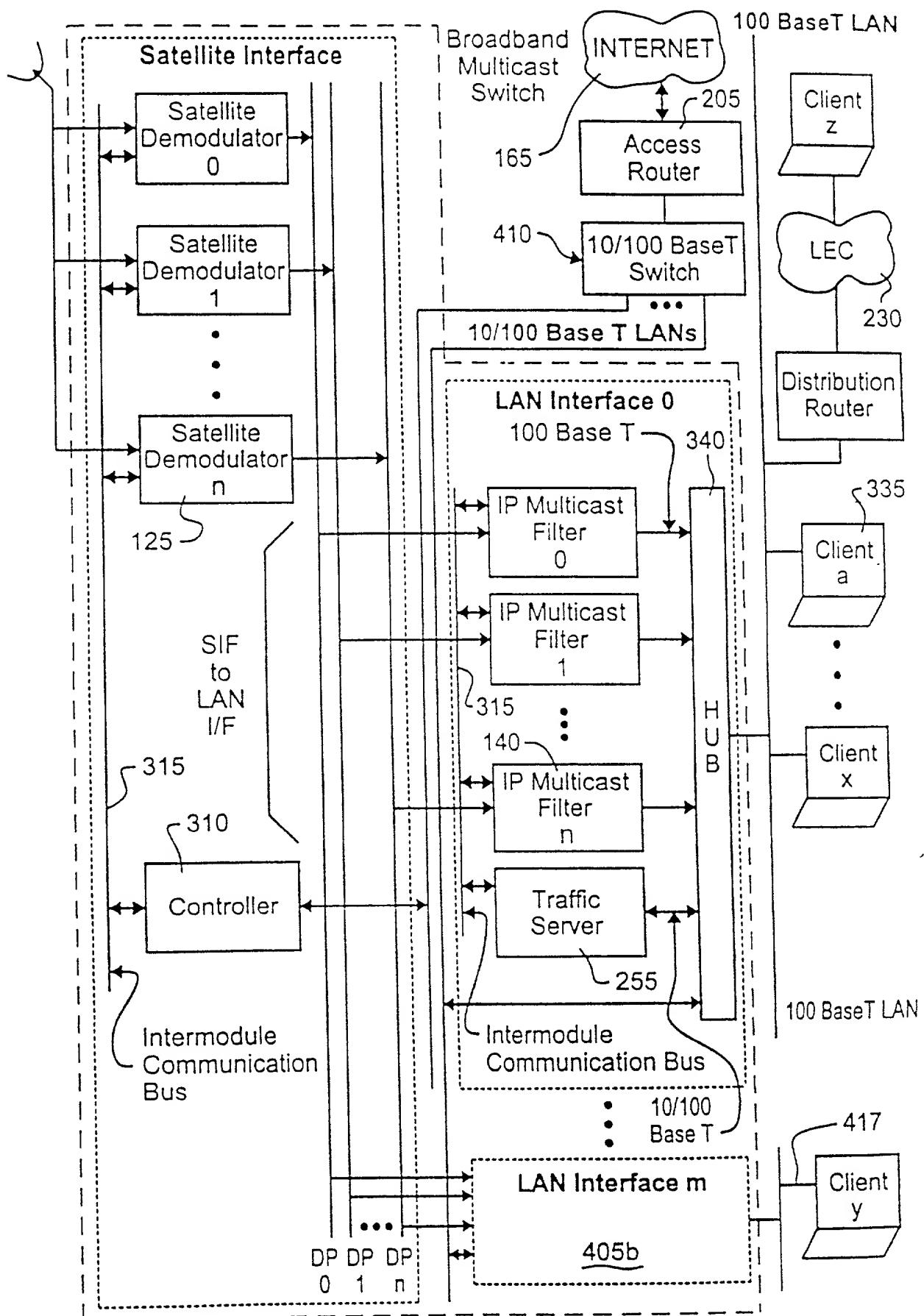
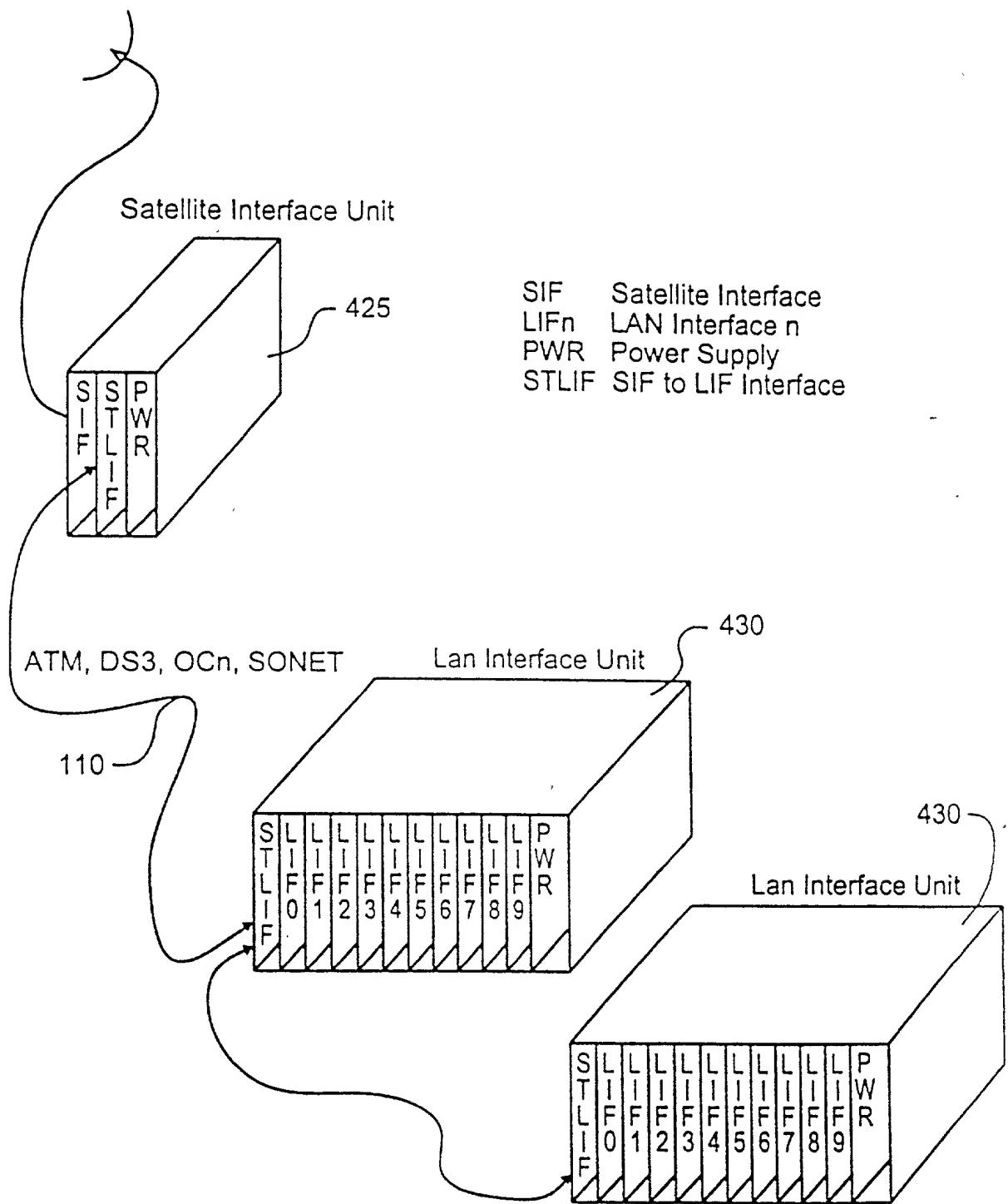


Fig. 11

1785

Fig. 12



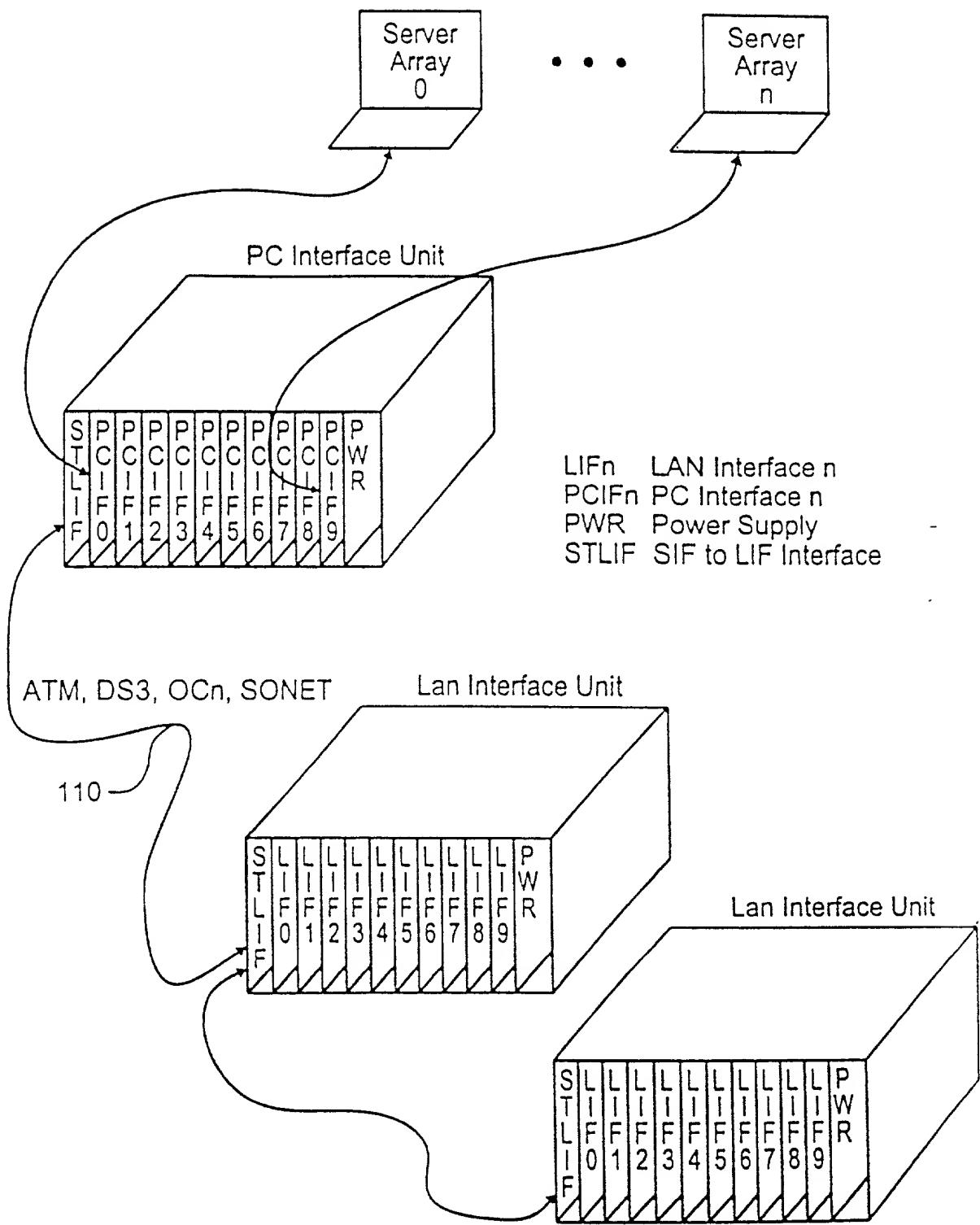


Fig. 13

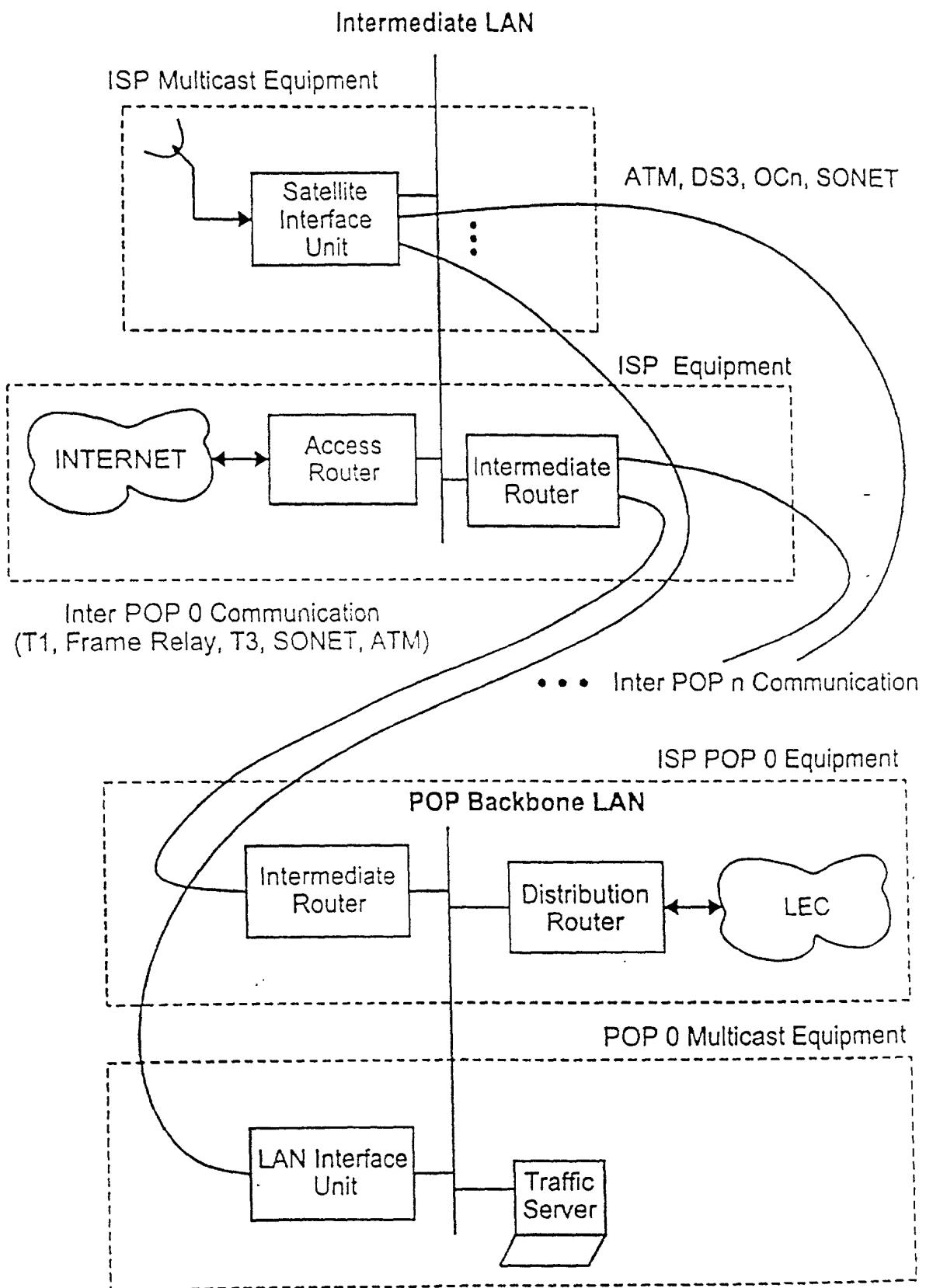


Fig. 14A

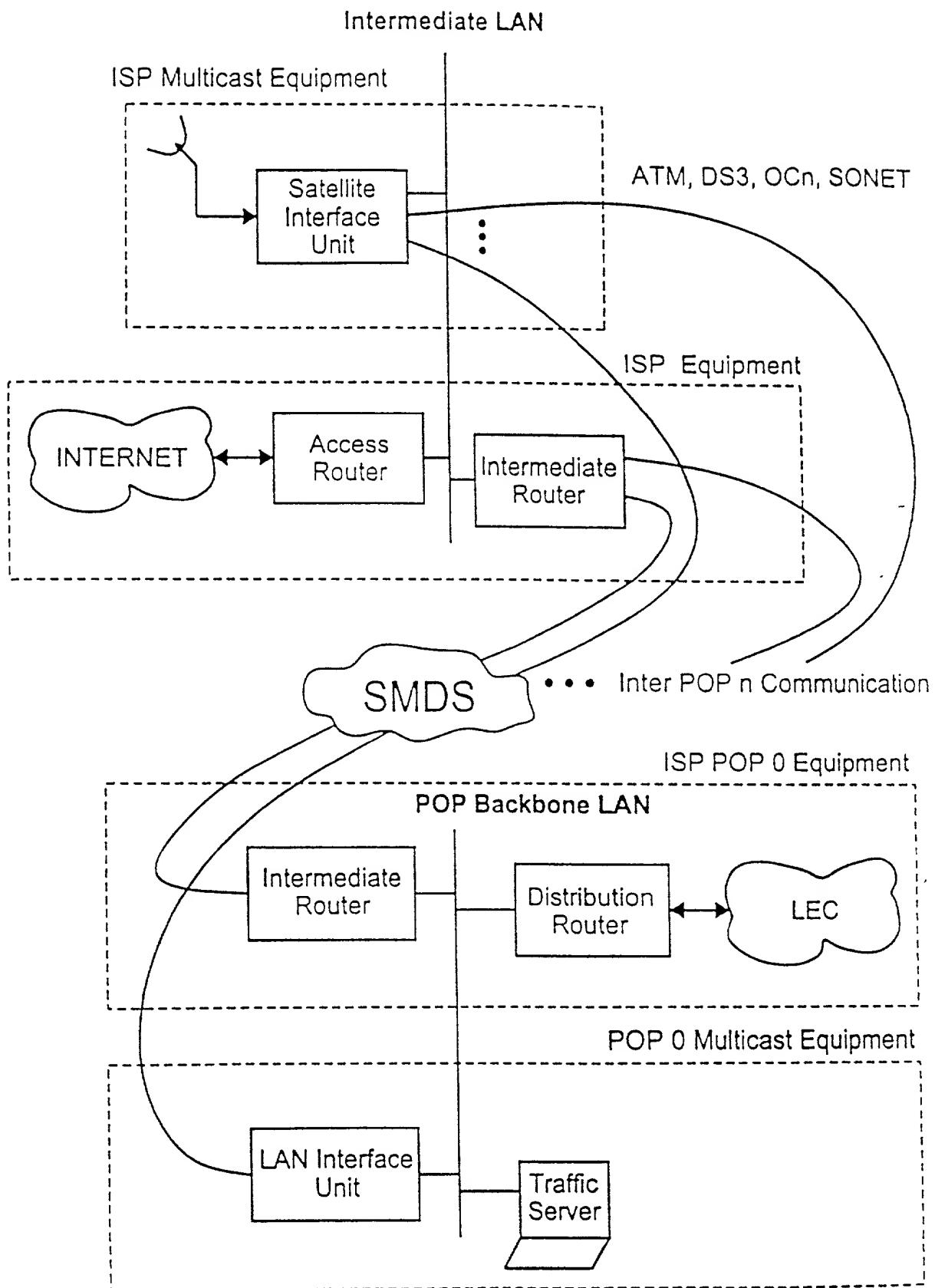


Fig. 14B

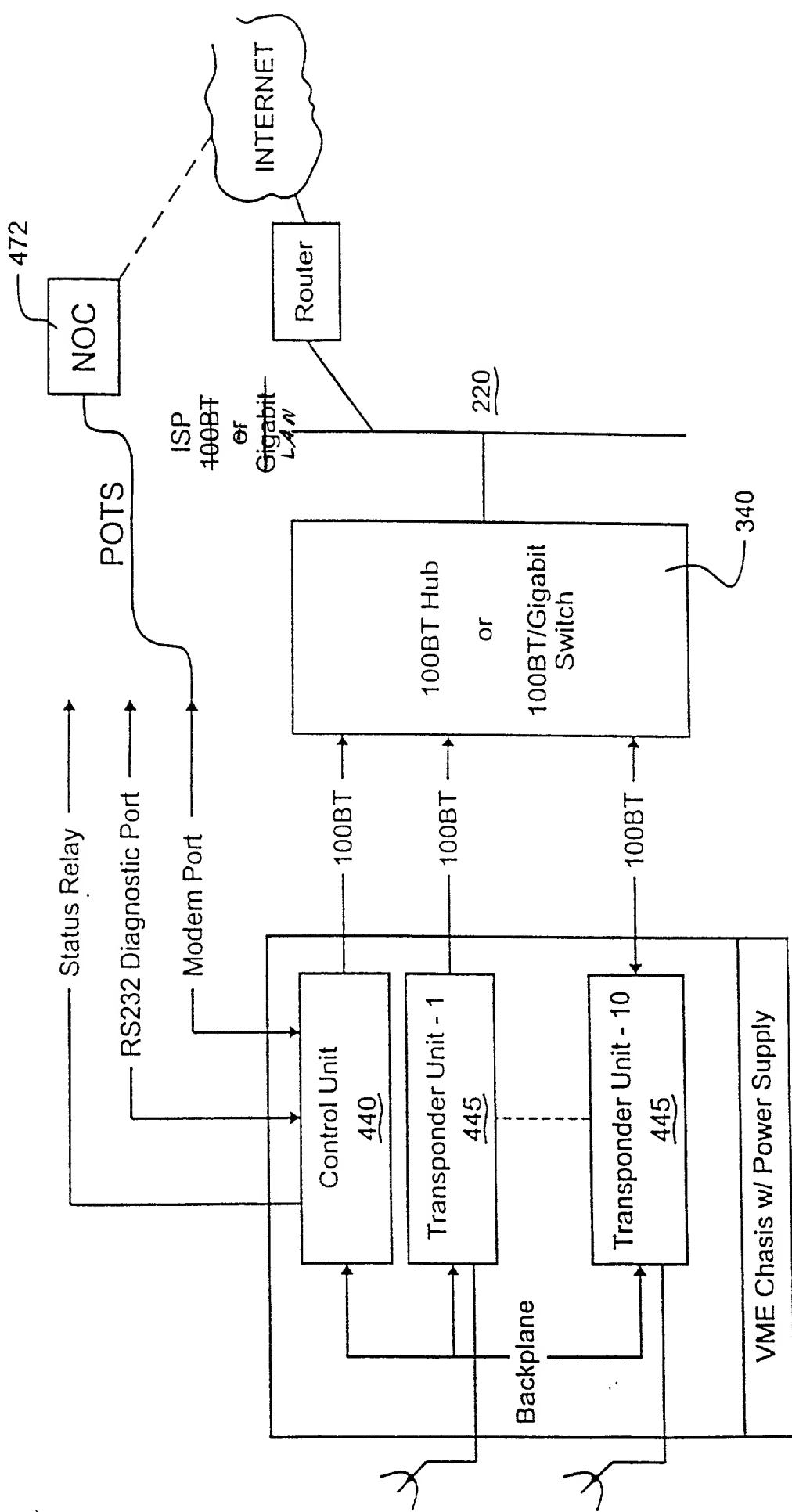


Fig. 15

Example 2.10.5

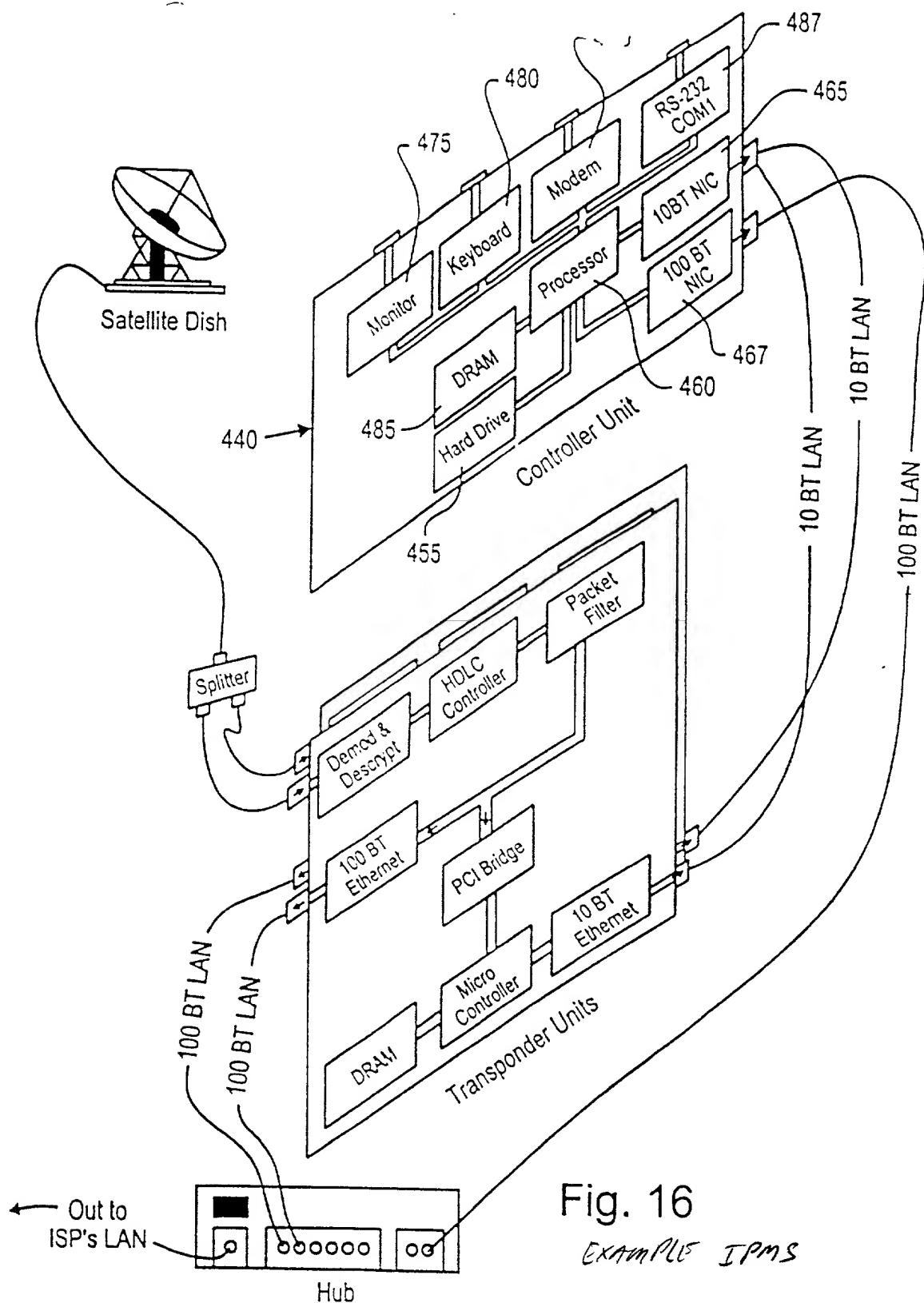
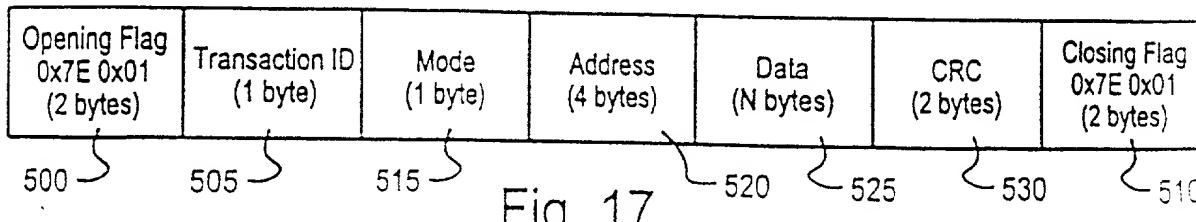


Fig. 16  
EXAMPLE IPMS



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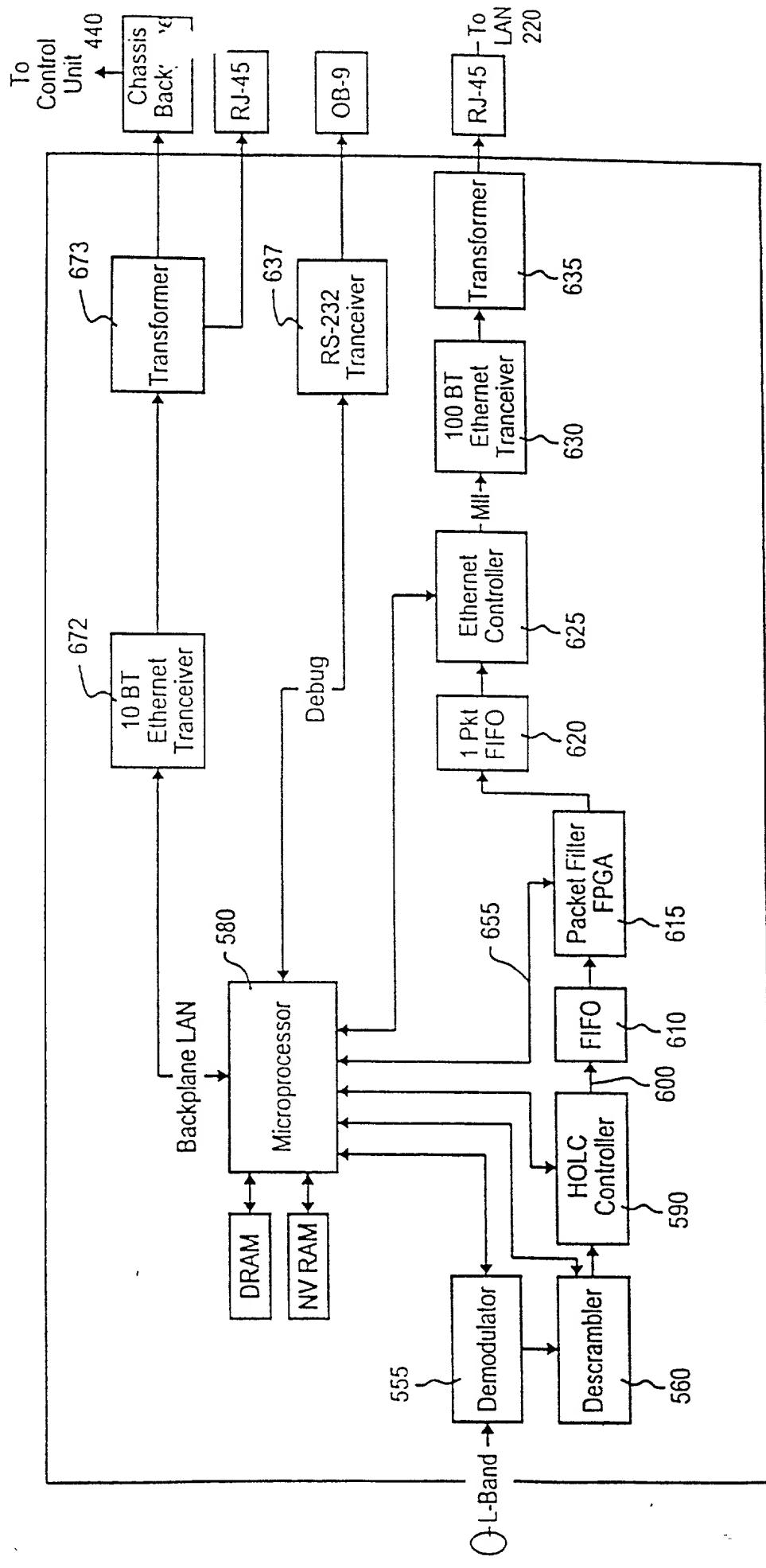


Fig. 18  
Transpto Transponder circuit

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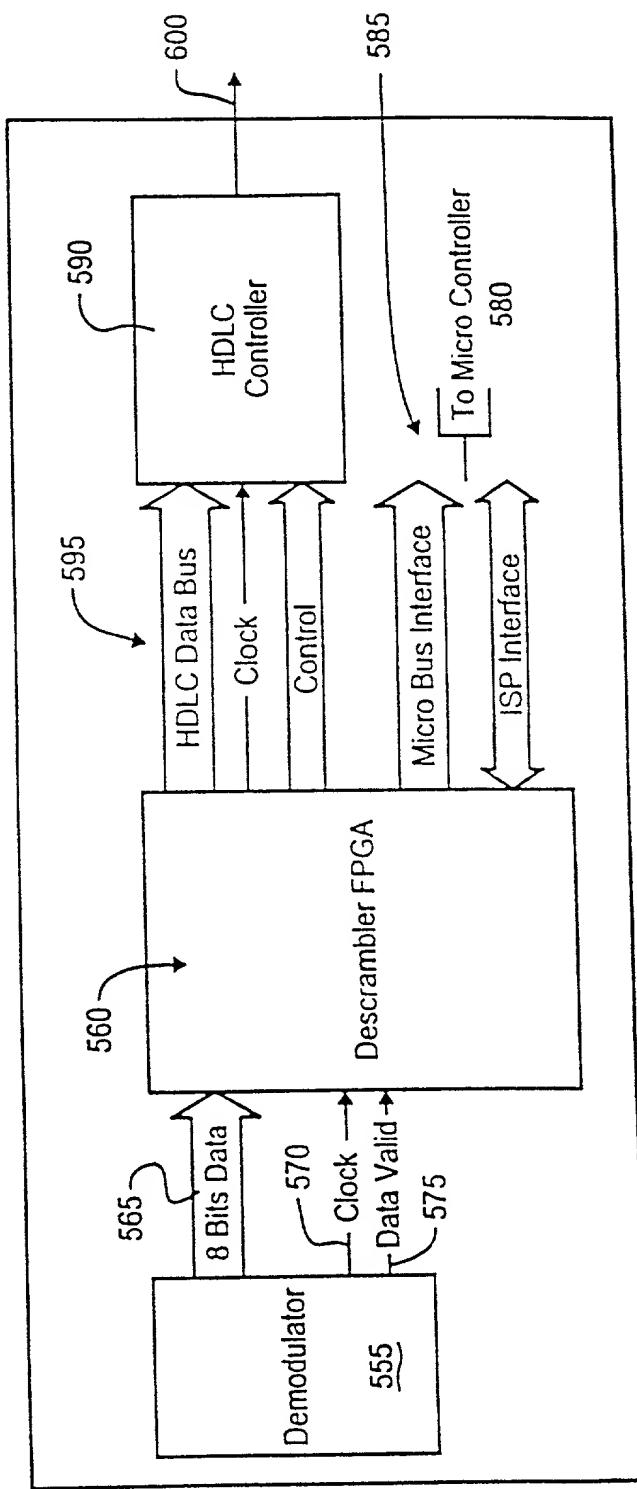


Fig. 19

Very low cost satellite receiver

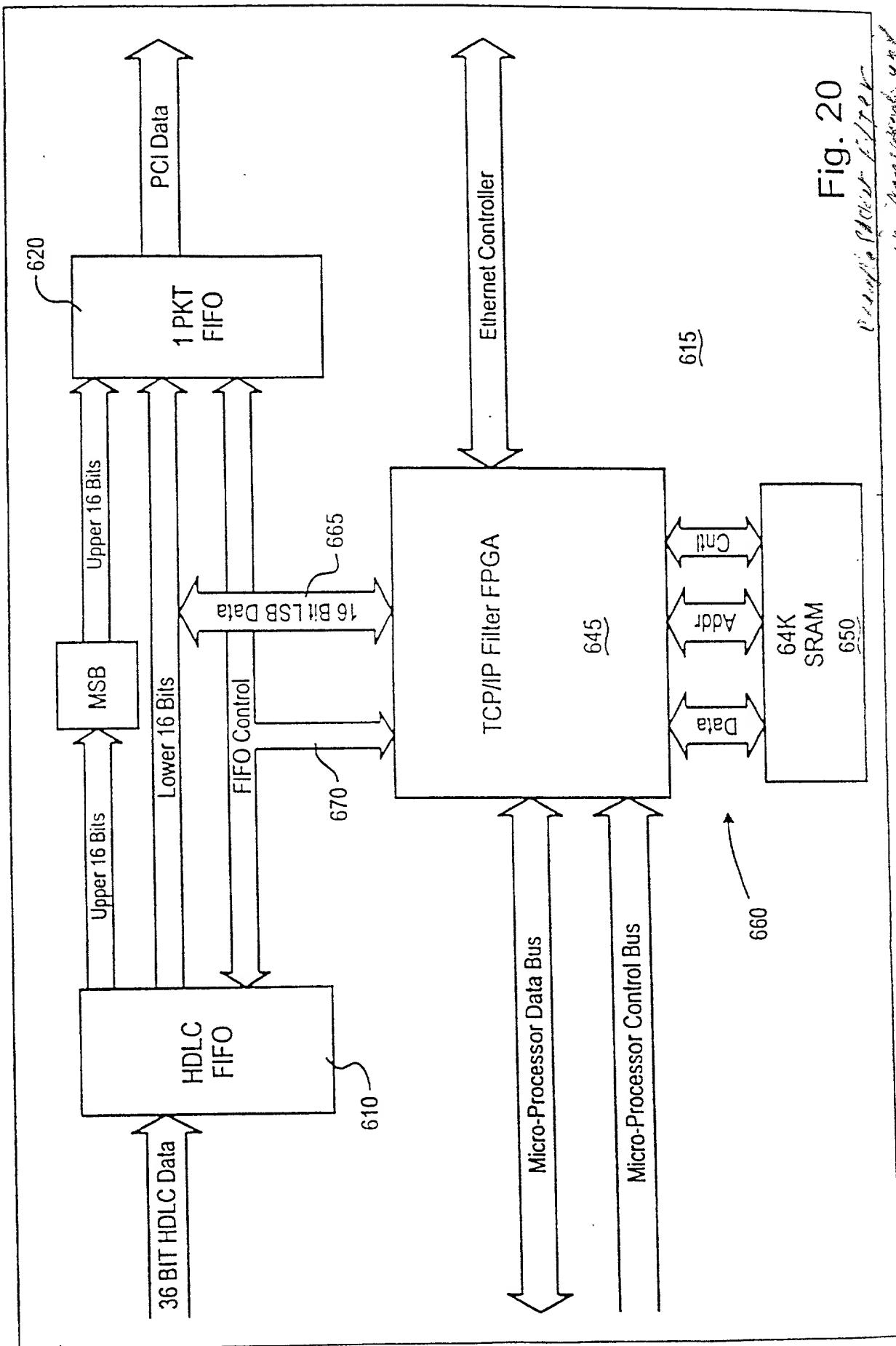


Fig. 20

Principle of Client / Server  
16 Transferring data

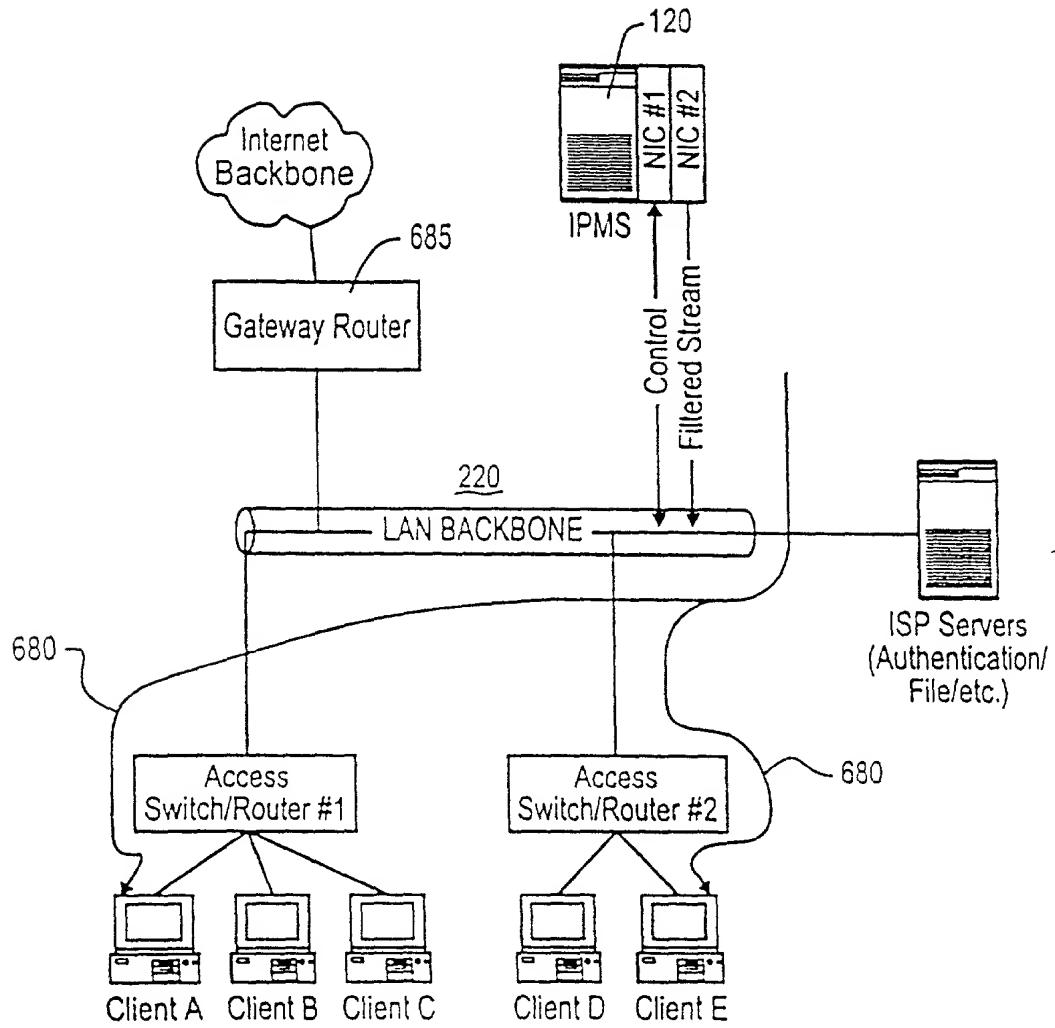


Fig. 21

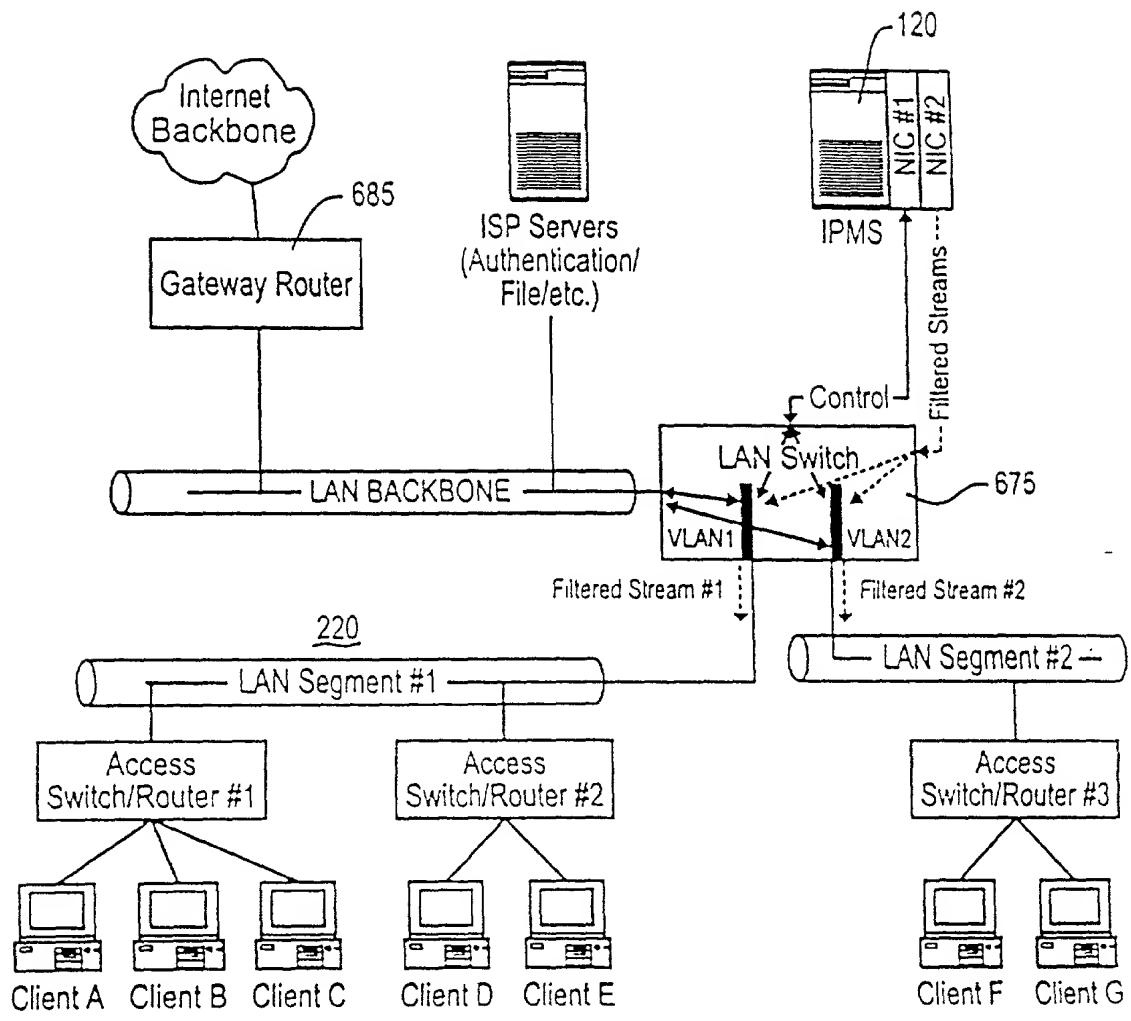


Fig. 22

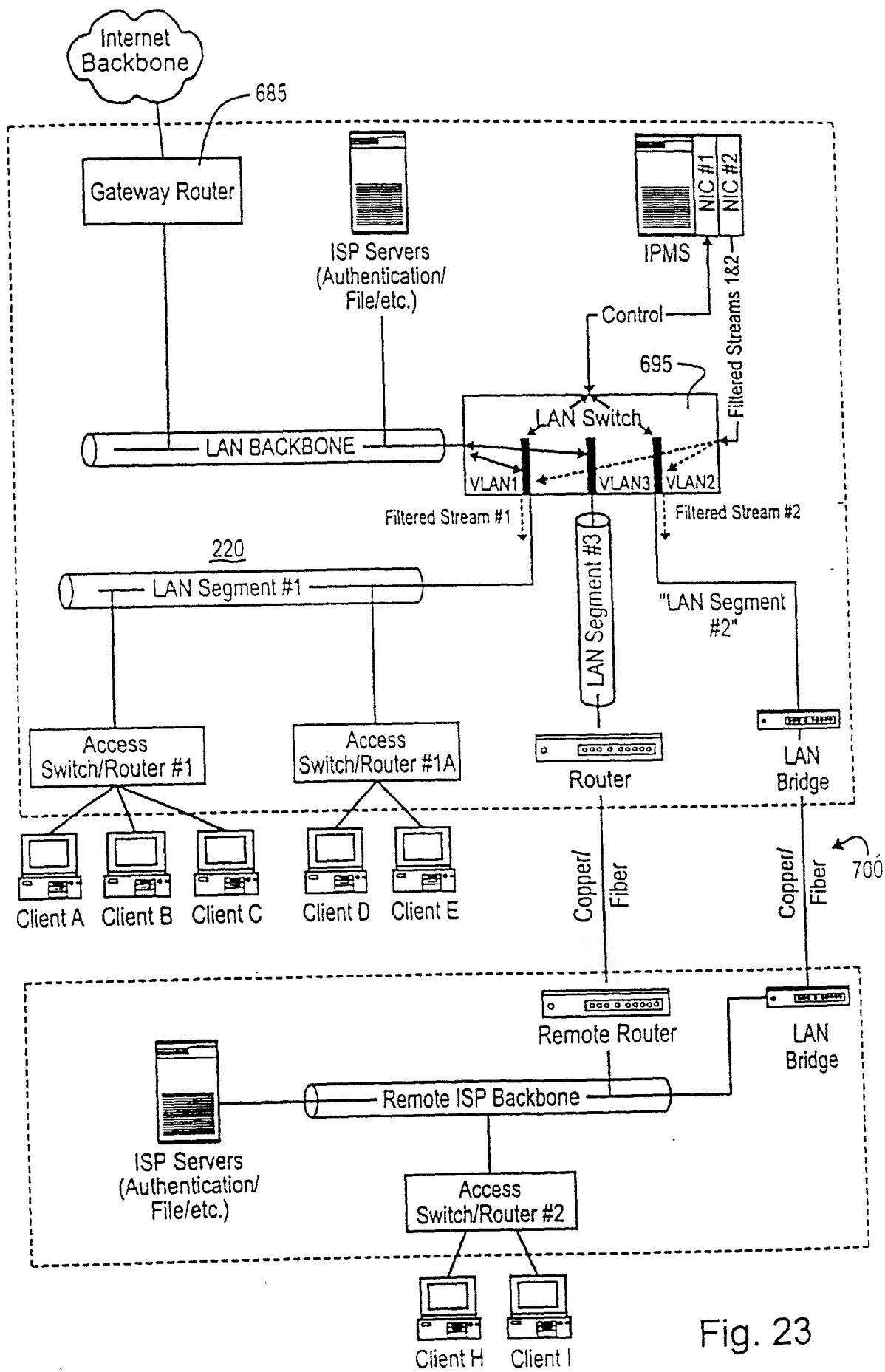


Fig. 23

21/02/07

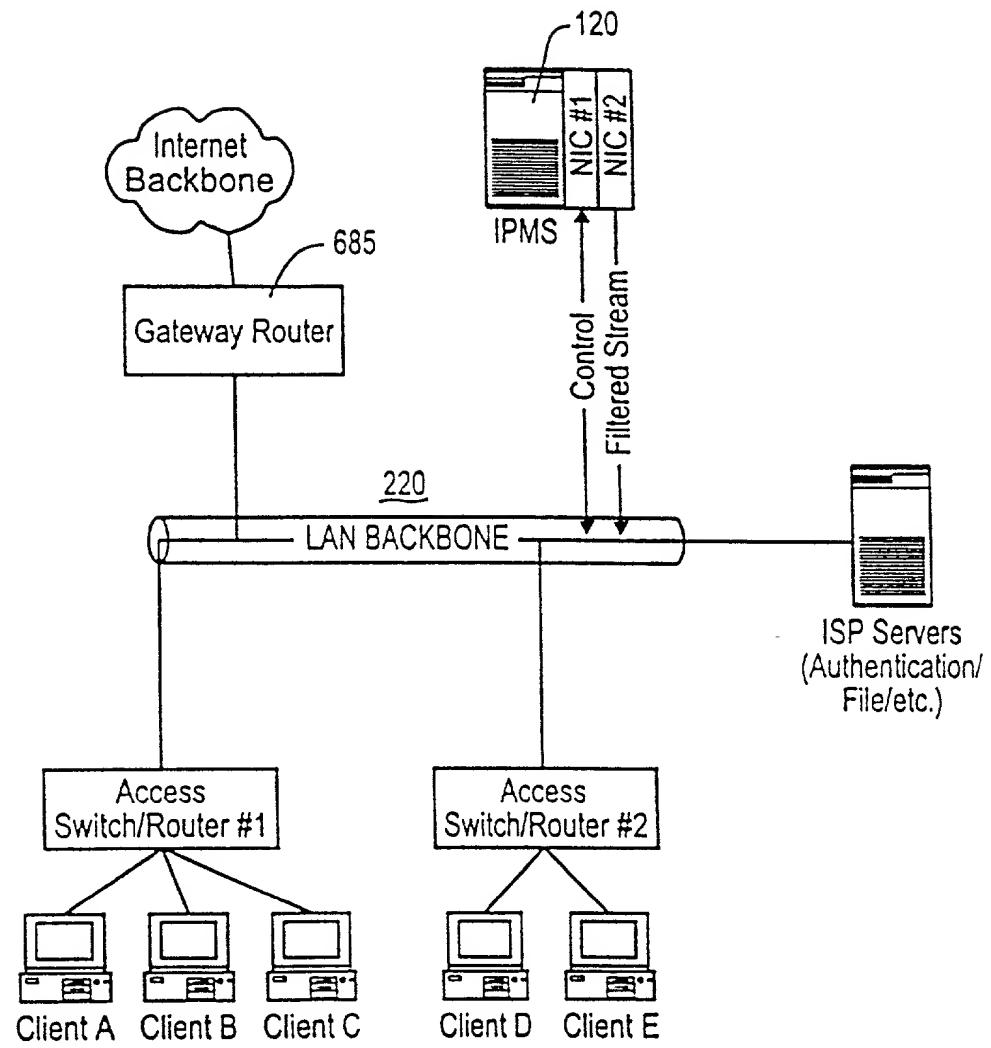


Fig. 24

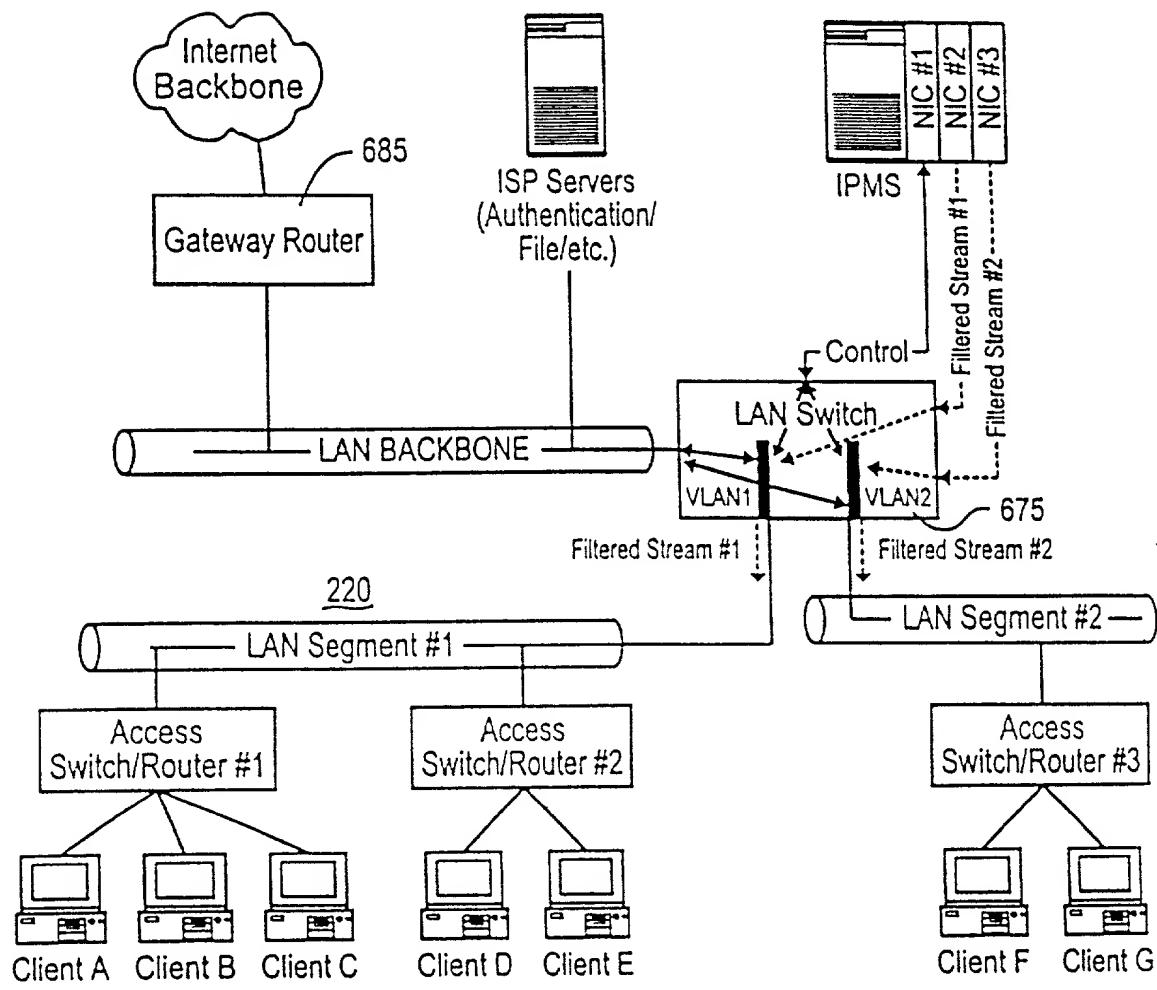


Fig. 25

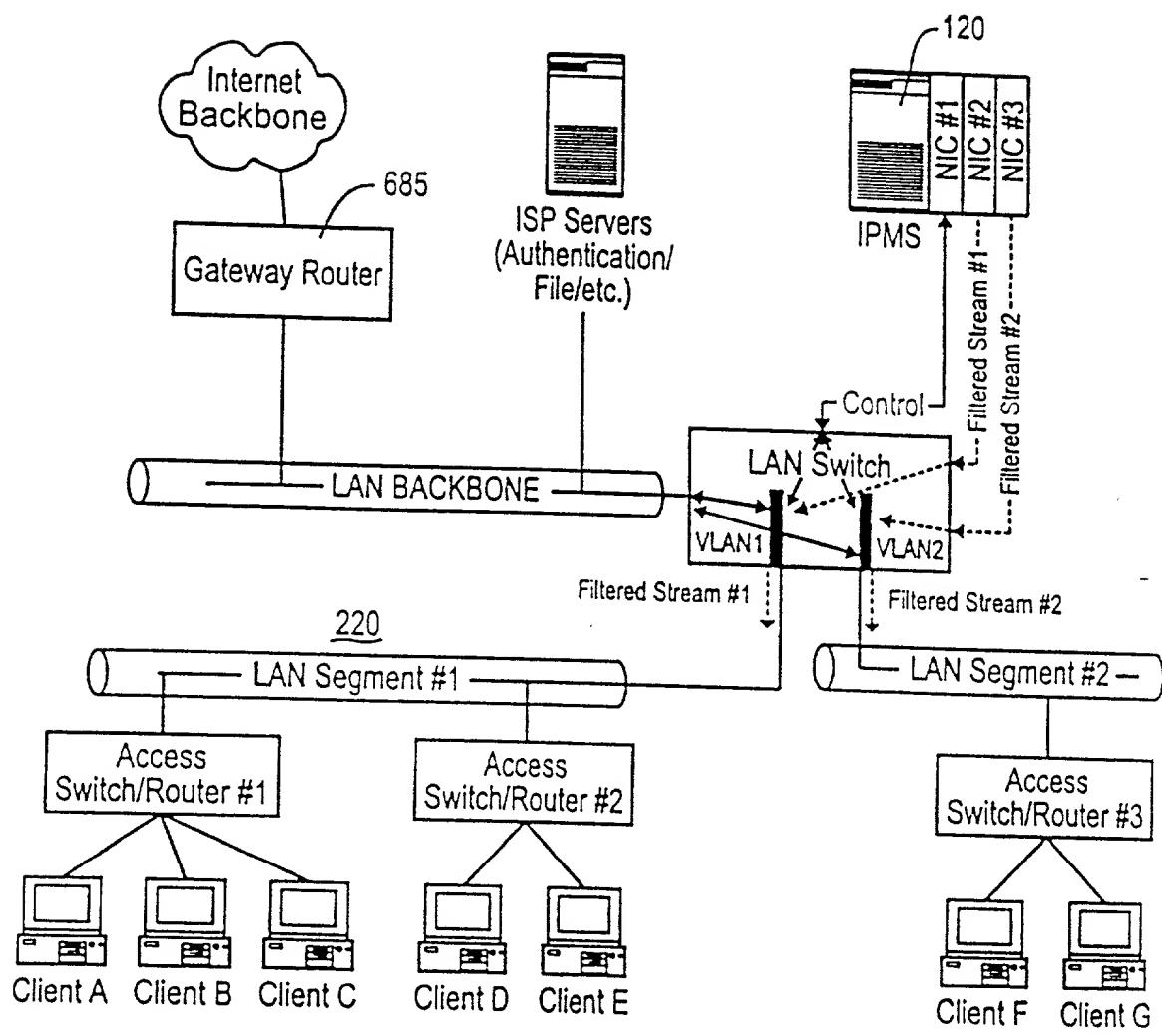


Fig. 26

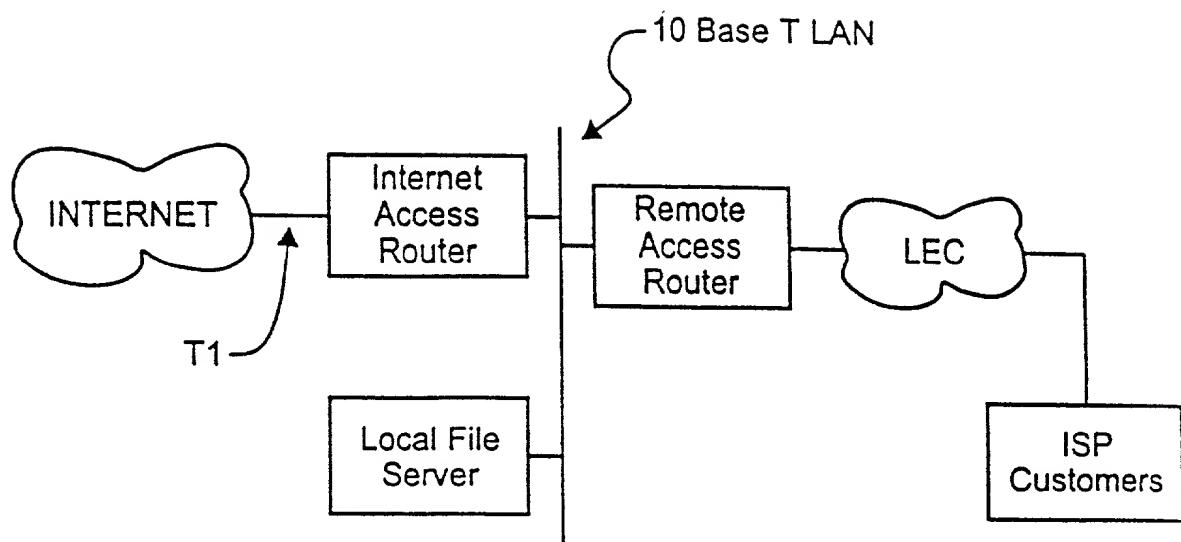


Fig. 27

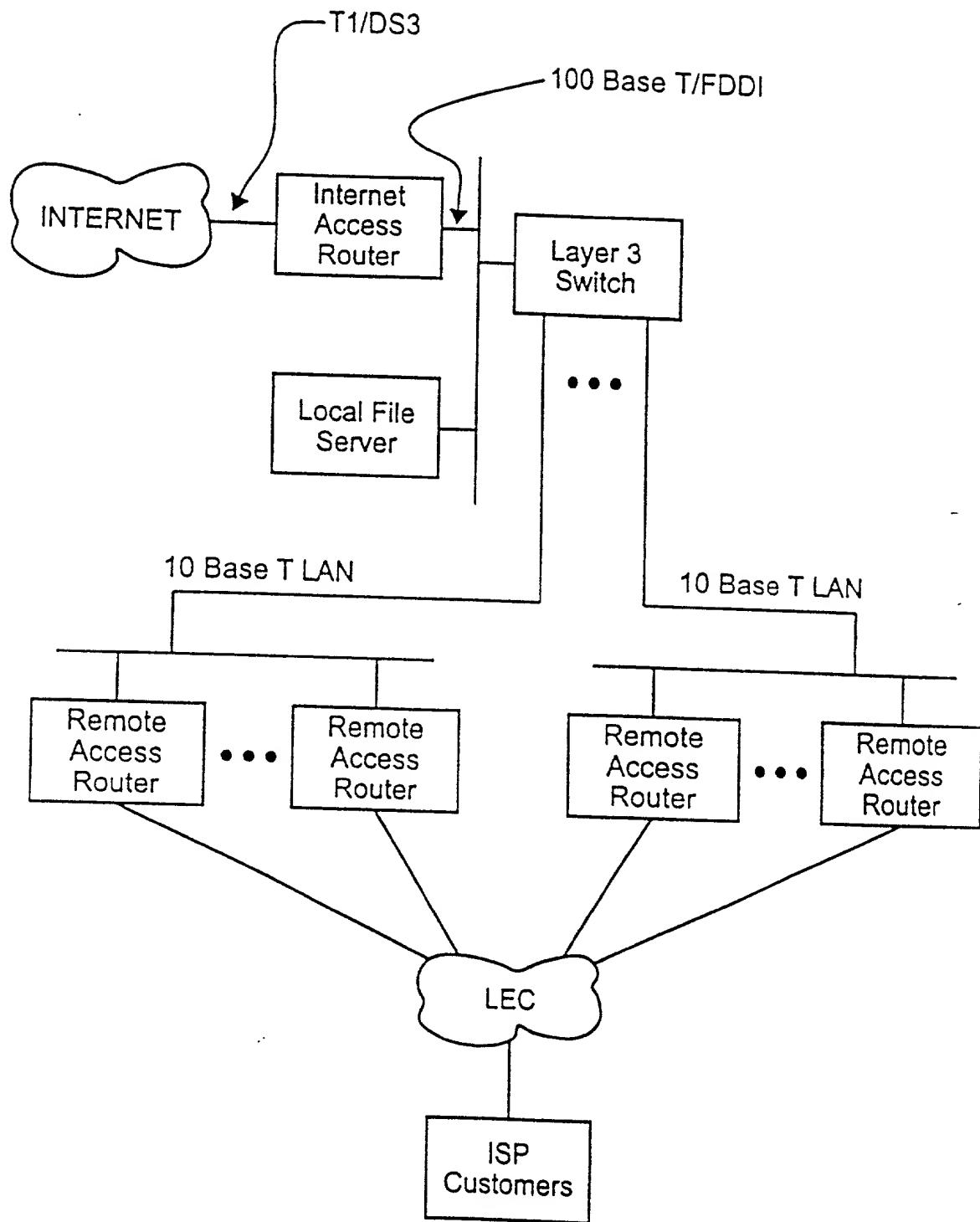


Fig. 28

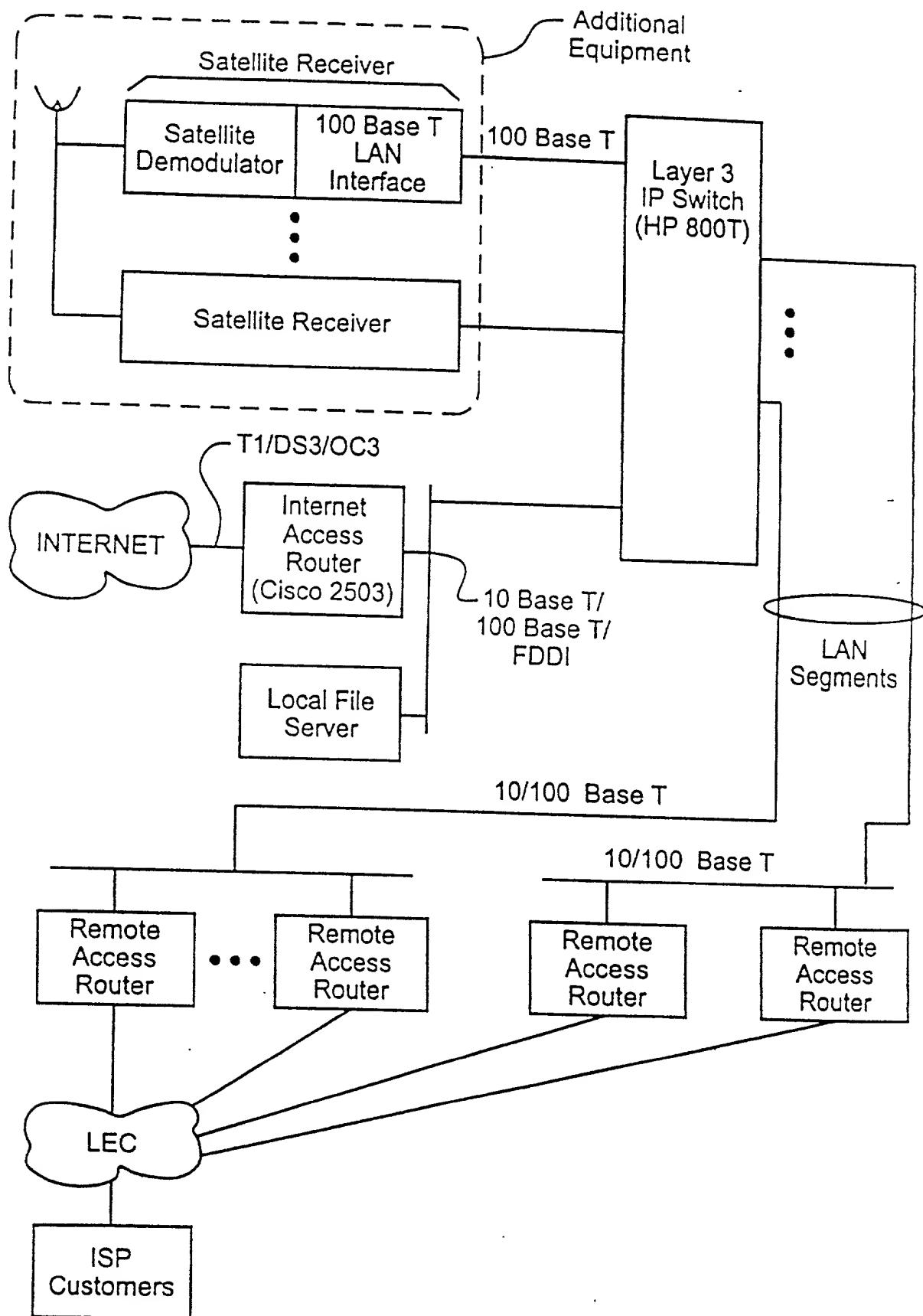


Fig. 29

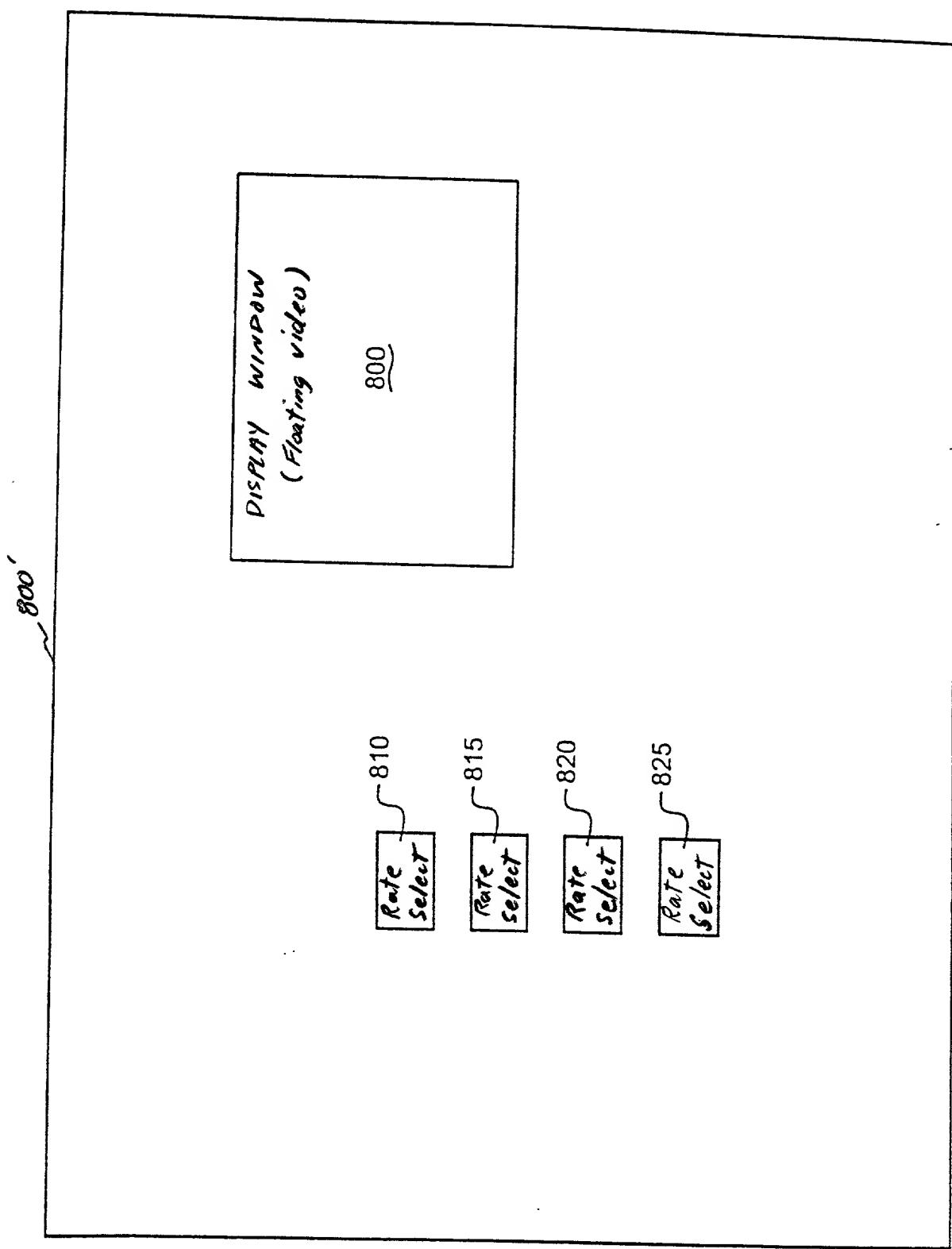


Fig. 30

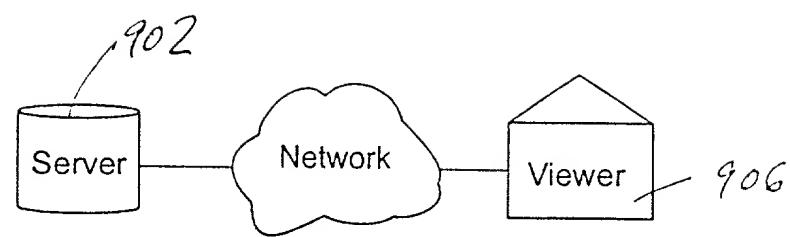


Figure 31  
Example ~~902~~ <sup>90 data</sup> Content Distribution

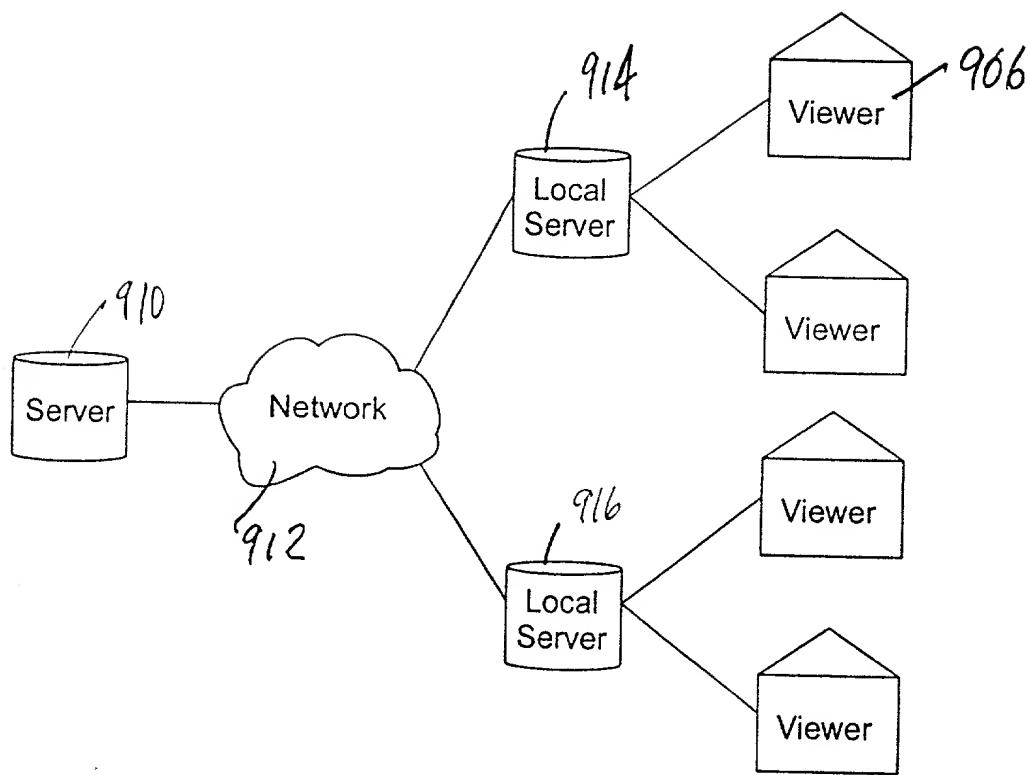


Figure 32  
Example Local Video Servers  
Audio

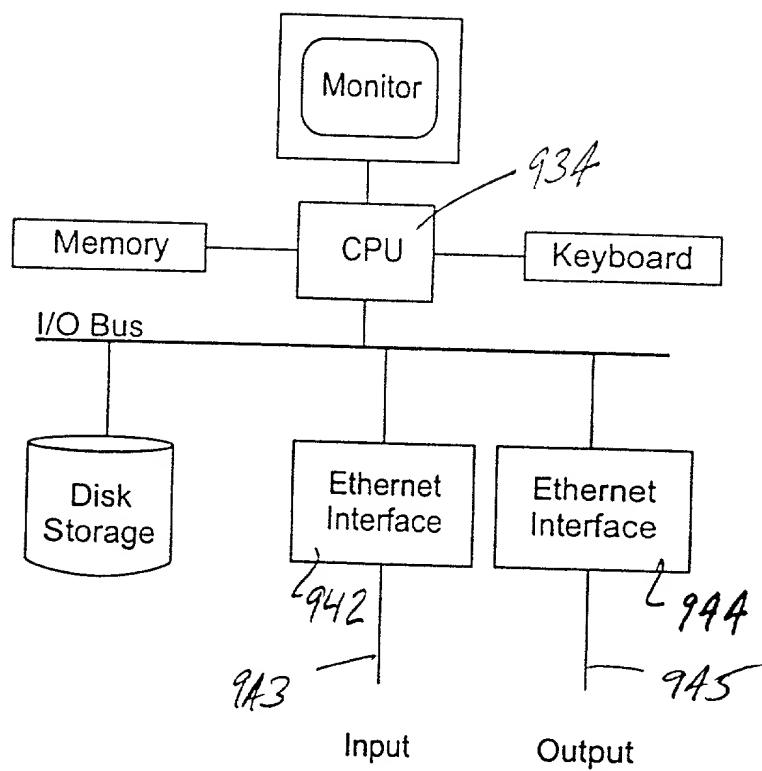


Figure 33  
Example Local Server Hardware Configuration

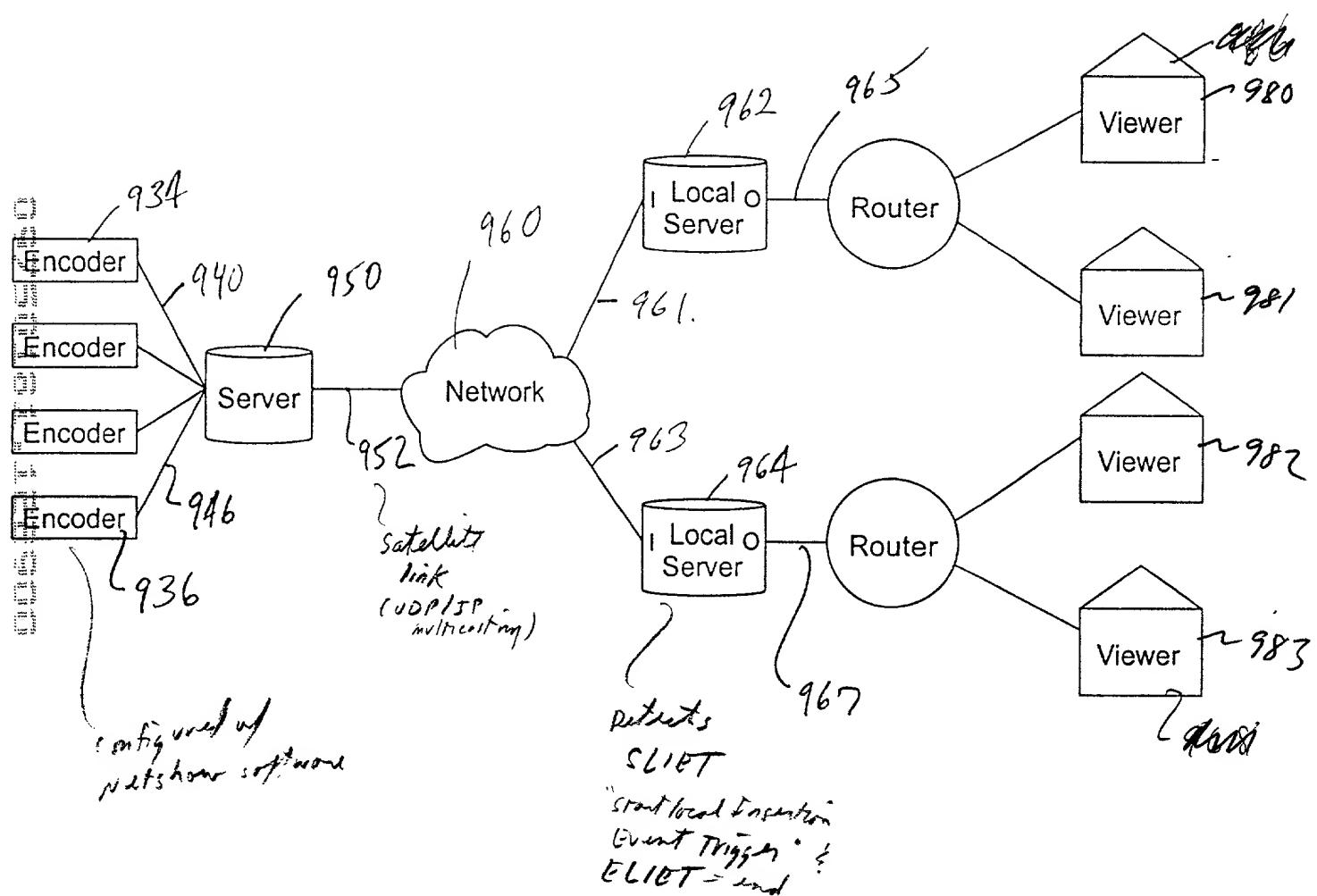


Figure 34  
Example Local Multicast Insertion

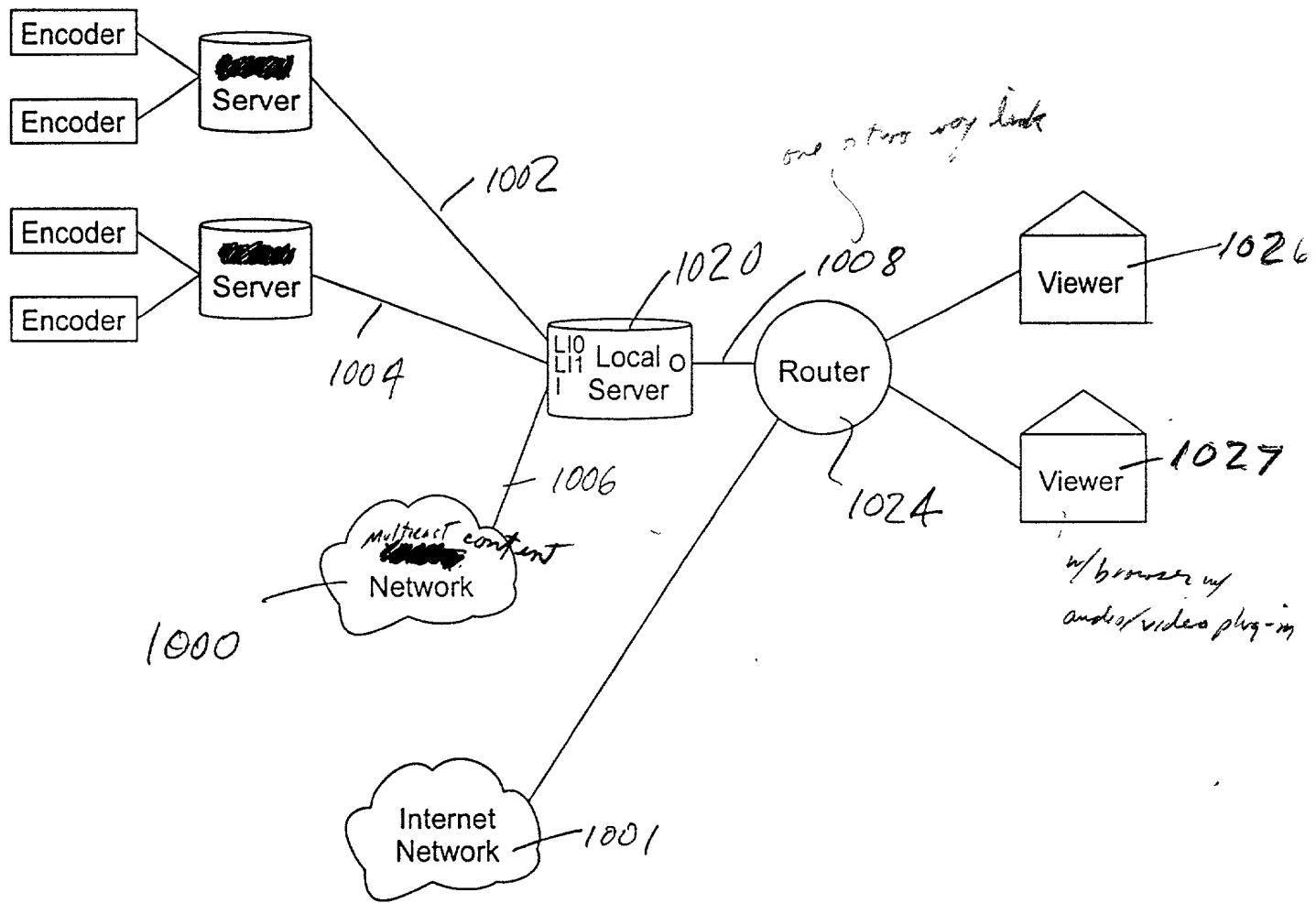


Figure 35  
*Example* Multicast and Internet Configuration

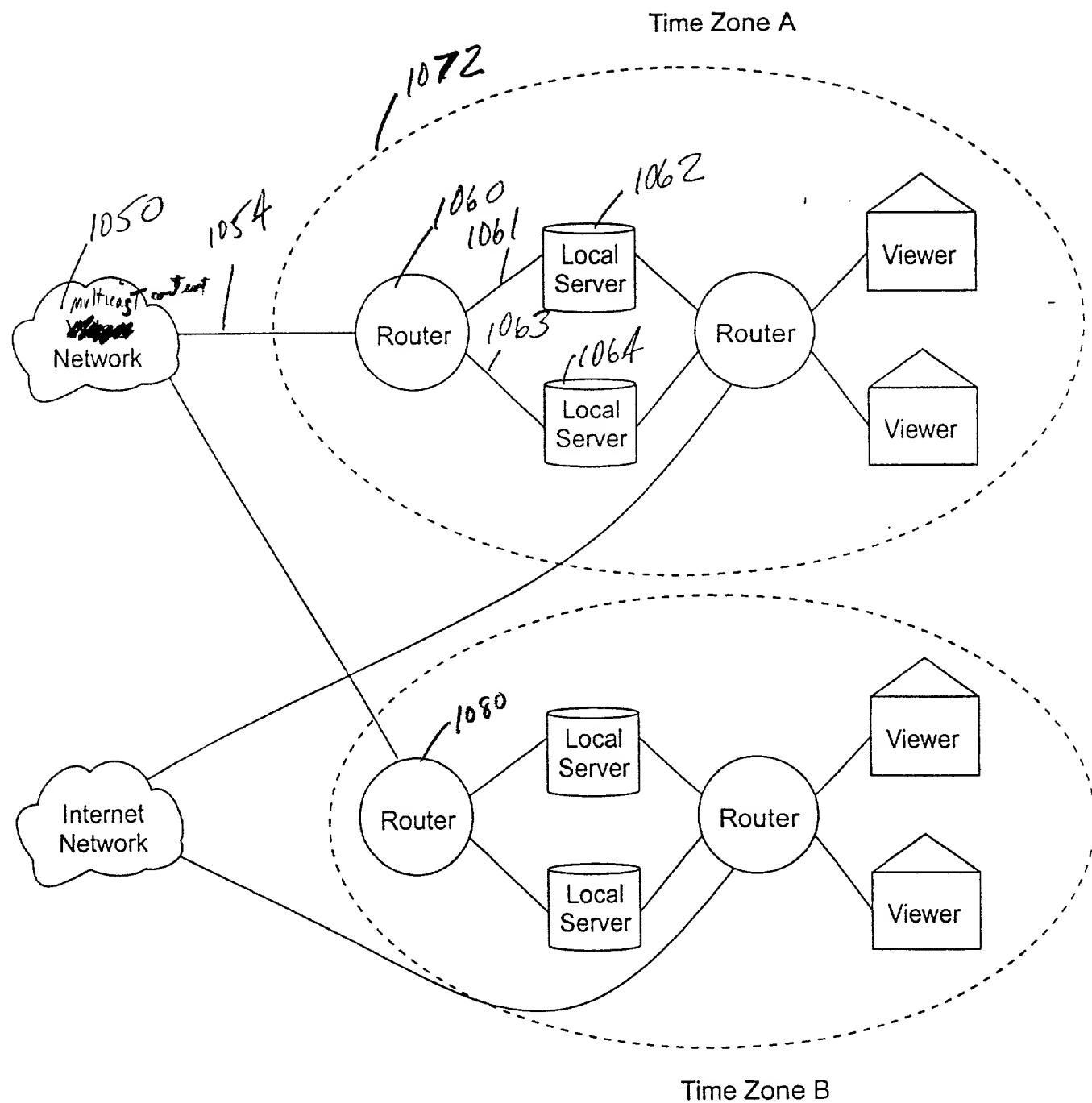


Figure 36  
Example Delay Play Configuration

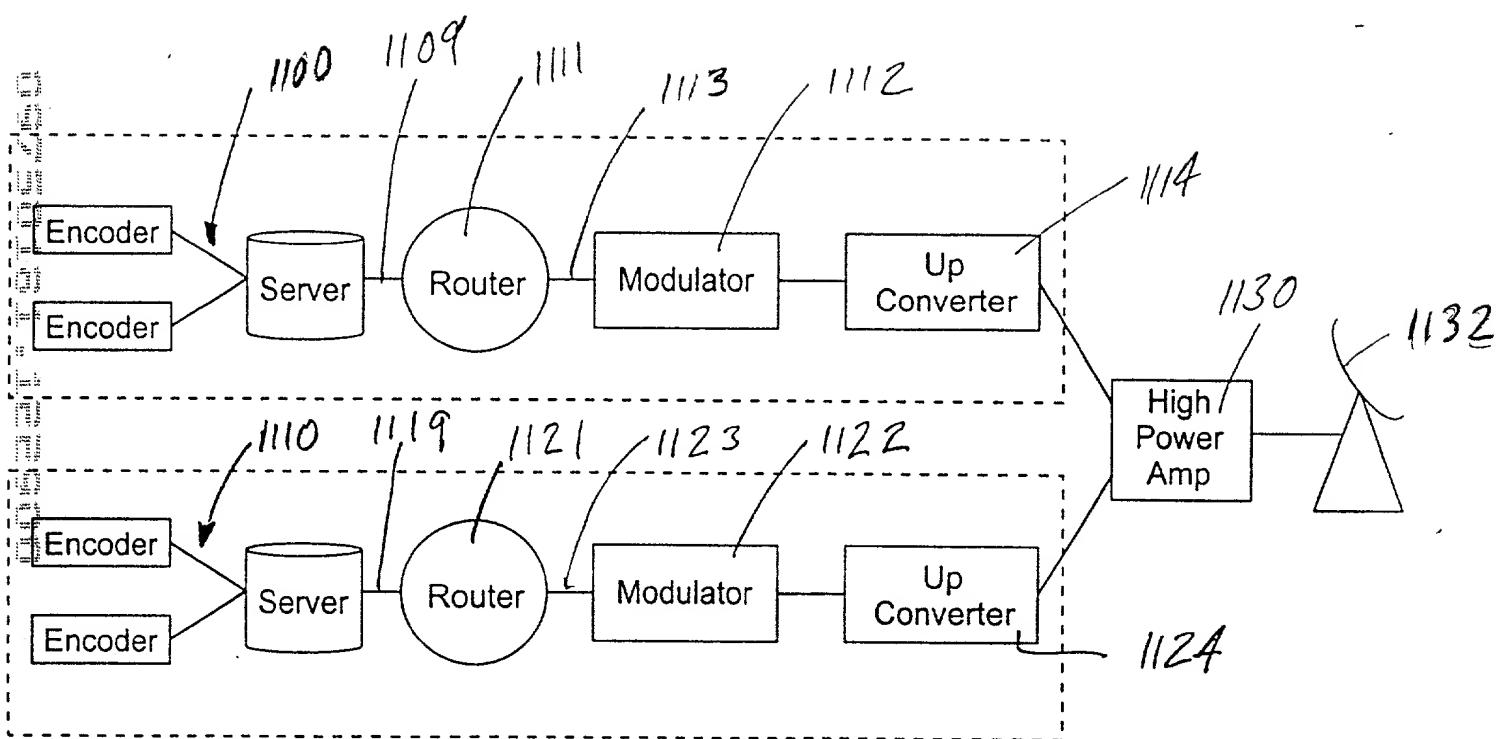


Figure 37  
*Example* Satellite Multicast Uplink Equipment

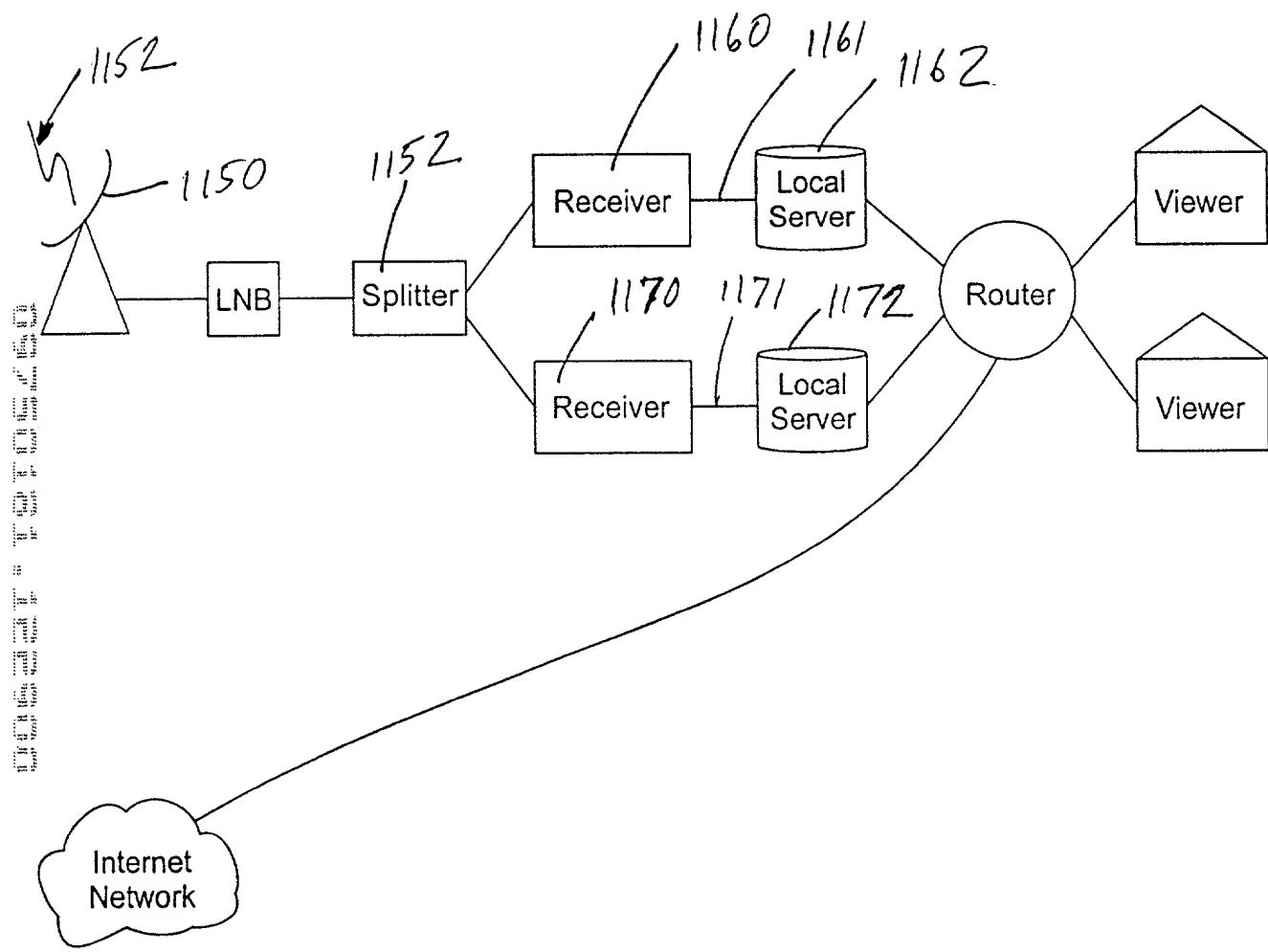


Figure 38  
Example Satellite Multicast Downlink Equipment

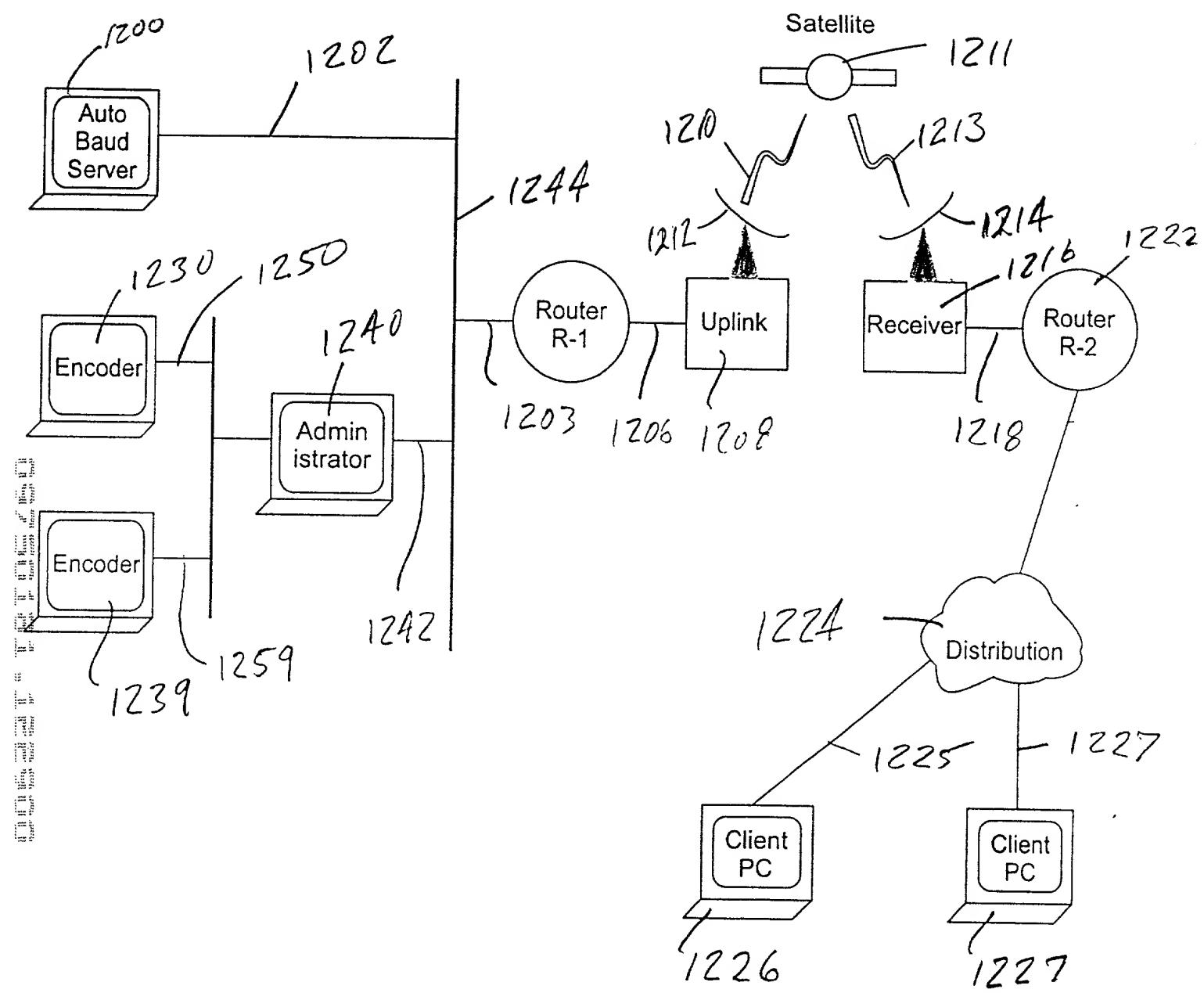


Figure 39  
Example Satellite system configuration

12457

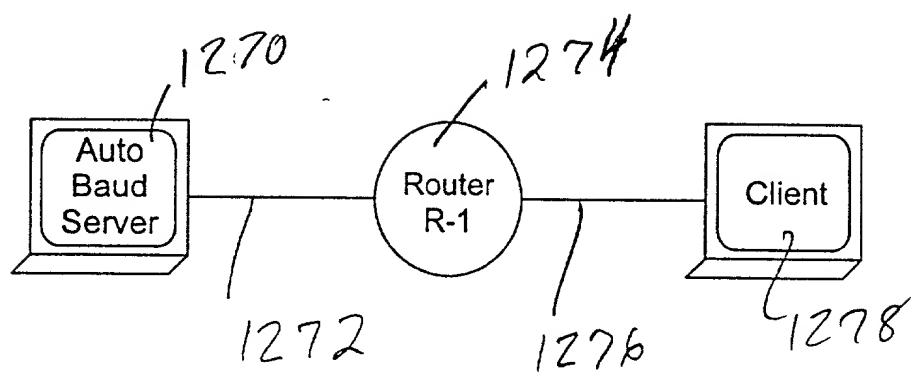
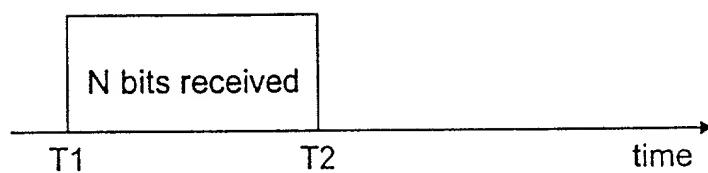


Figure 40  
Simplified system configuration



$$\text{Bit Rate} = N / (T_2 - T_1)$$

Figure 41  
Single packet timing diagram

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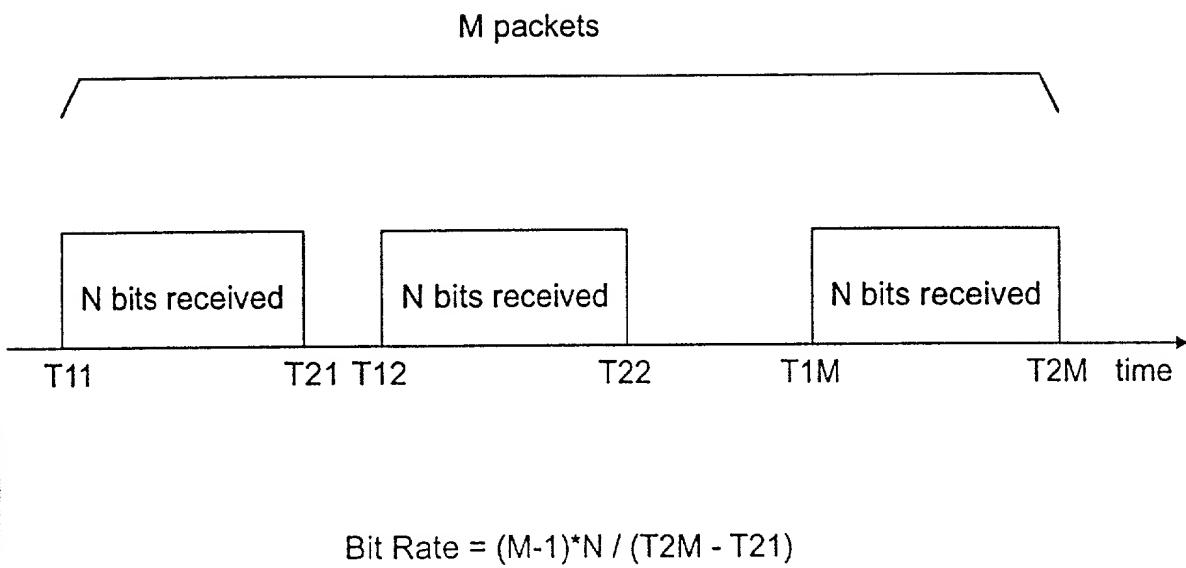


Figure 42  
Multipacket timing diagram

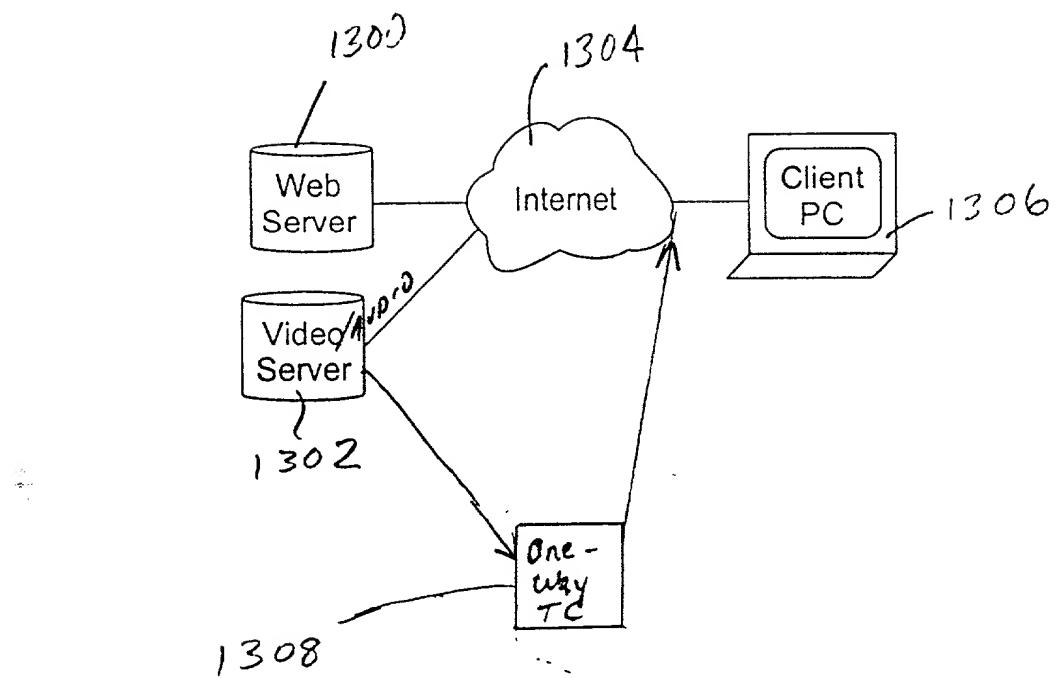


Figure 43  
Local Replay System

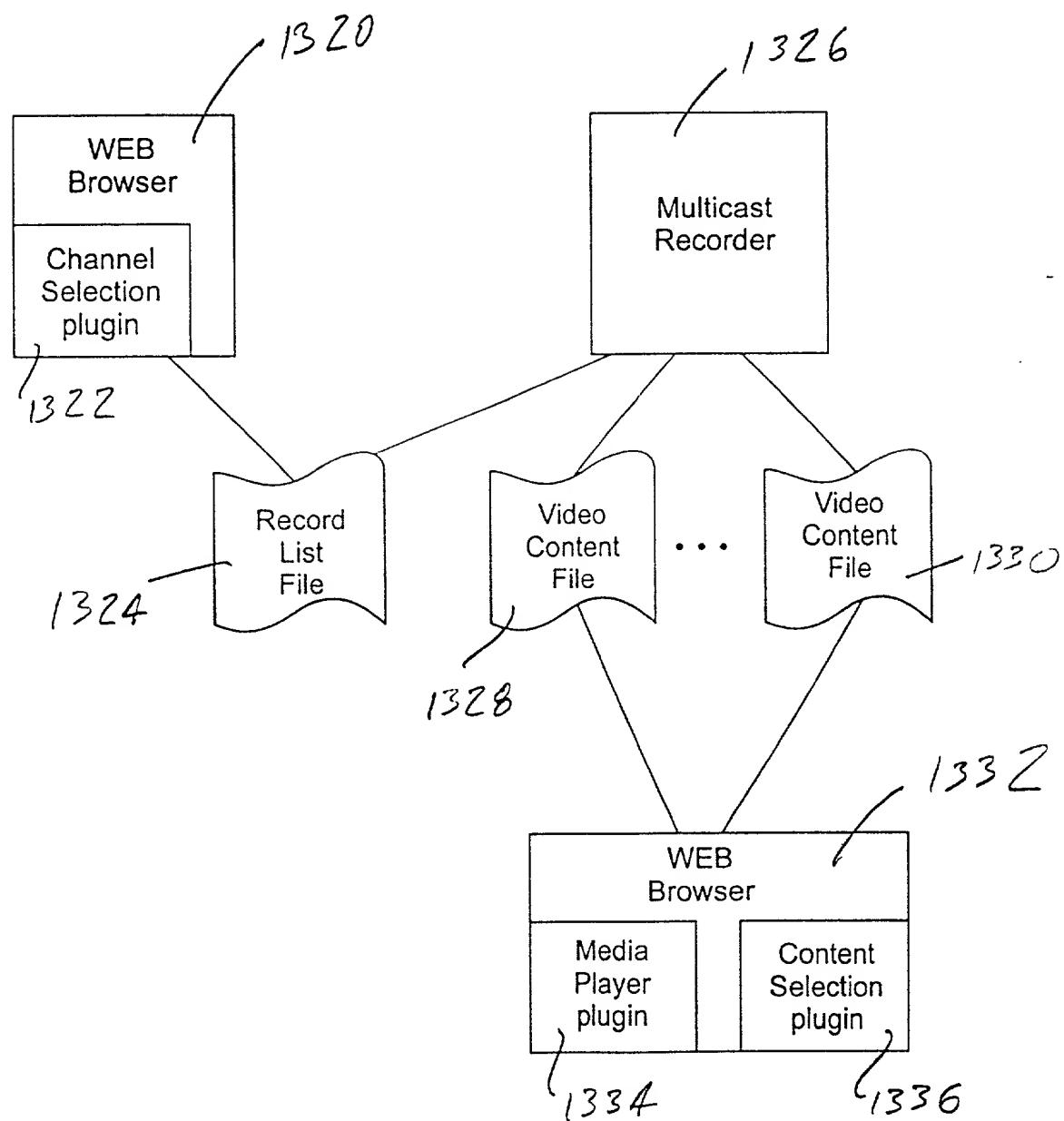


Figure 44  
*Example* Client Software Components

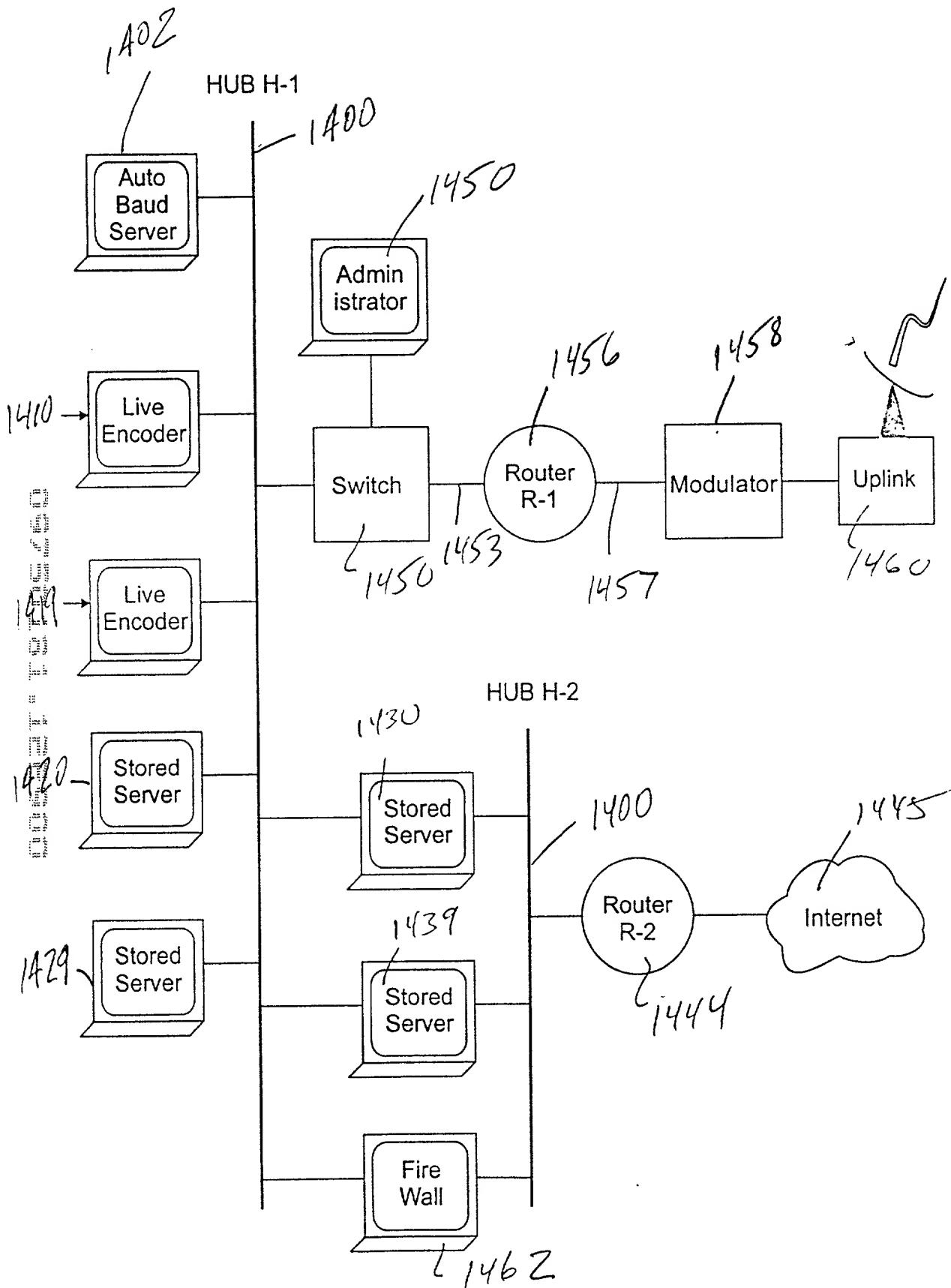


Figure 45  
Example Satellite uplink system configuration

## Uplink Equipment List

Switch	HP 800T
Router R-1	Cisco 7205
Router R-2	Cisco 2503
Modulator	Raydyne 3030-HSSI
HUB H-1	Allied Telesys CentreCom FH824U
HUB H-2	3-Com SuperStack-II

AB = AutoBaud Server

LEV = Live Encoder - Video

LEA = Live Encoder - Audio

SS = Stored Server

A = Administrator

FW = Fire Wall

HARDWARE	AB	LEV	LEA	SS/A	FW
Keyboard - Generic	x	x	x	x	x
Hard Disk - Generic 10 Gb	x	x	x	x	x
Floppy Disk - Generic 3 1/2	x	x	x	x	x
Monitor - Generic SVGA	x	x	x	x	x
Memory - Generic 128 MB ECC	x	x	x	x	x
Processor - Dual Pentium-III 450 MHZ	x	x	x	x	x
Mother board - SuperMicro P6DGE	x	x	x	x	x
Ethernet IO - 3-Com 3C905 (2 req)	x	x	x	x	x
Audio capture - Creative 128		x	x		
Video capture - Osprey 100		x			
SOFTWARE					
Operating System - Microsoft NT Server 4	x	x	x	x	x
Encoding - Microsoft Media Services 4		x	x		
Fire Wall - Axent Raptor 6					x

Figure 46  
*Example* Satellite uplink system equipment list

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Example ~~██████████~~ Downlink Equipment

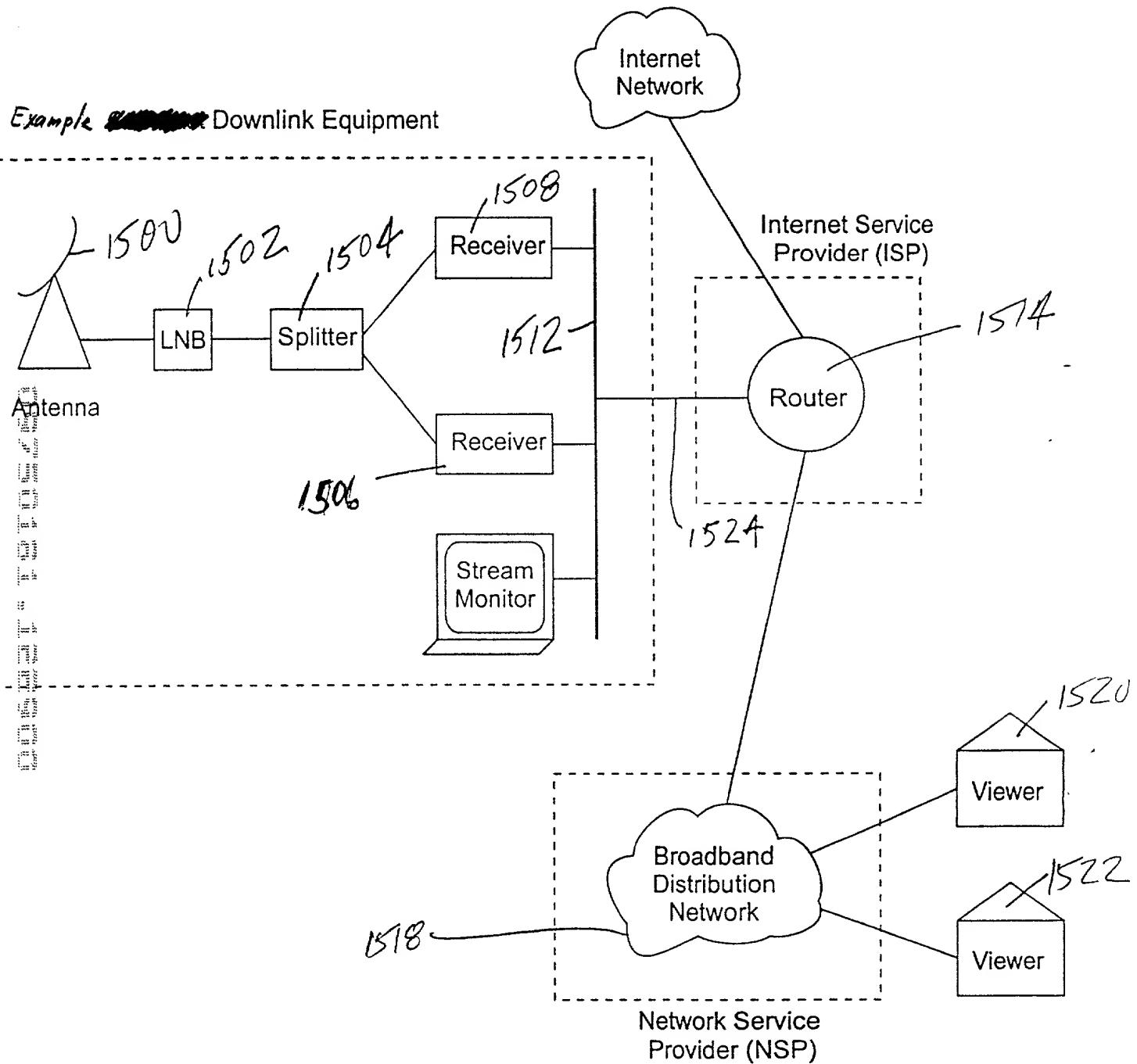


Figure 47

Example ISP Connected ~~██████████~~ Downlink Equipment

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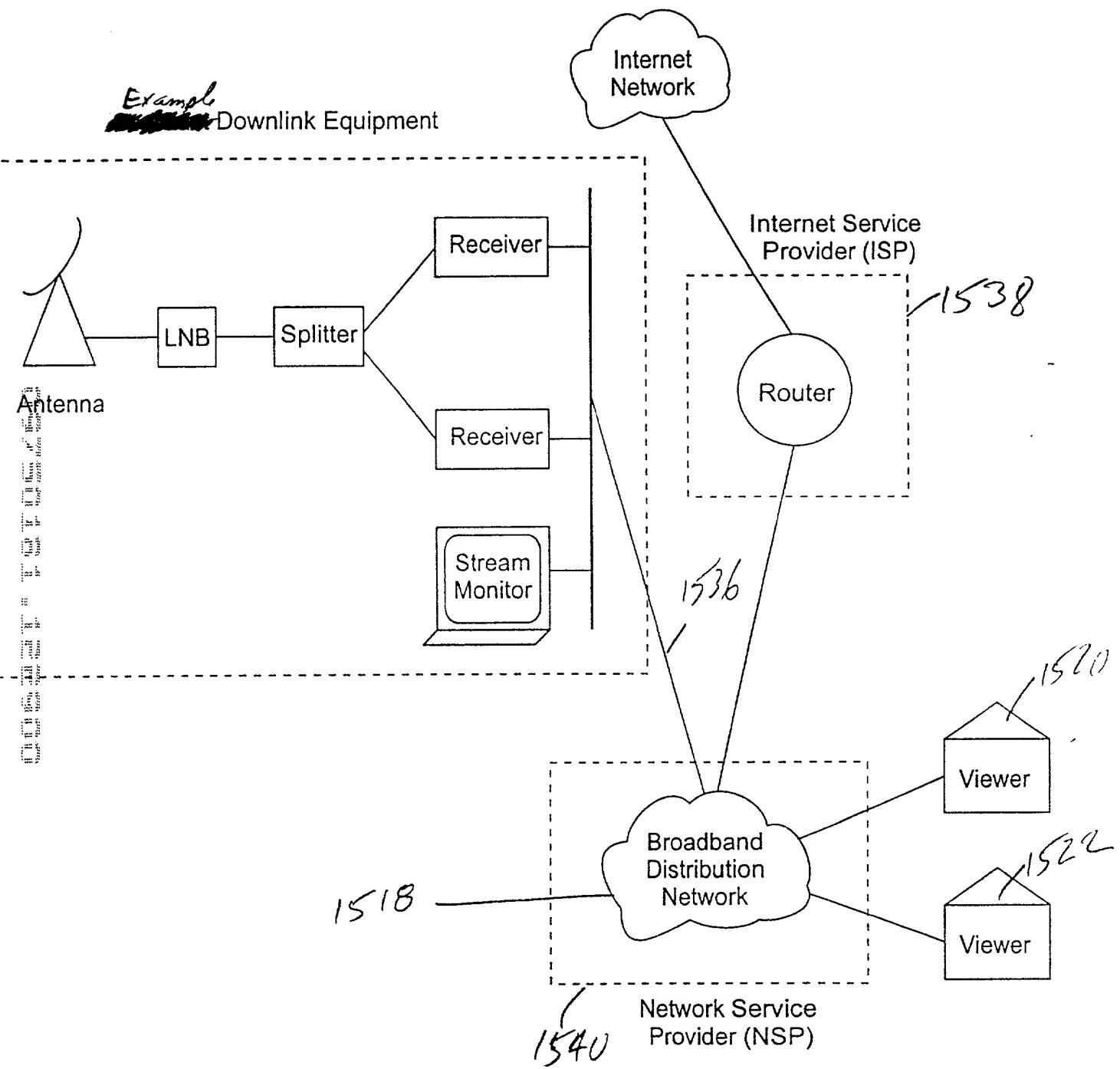


Figure 48  
*Example* NSP Connected ~~Downlink Equipment~~

*Example*

## Downlink Equipment List

HUB            Allied Telesys CentreCom FH824U

Antenna        Prodin

LNB            ??

Receiver (2req) StarGuide Digital SG-II with 100BaseT Ethernet card

### HARDWARE

Keyboard - Generic

Hard Disk - Generic 10 Gb

Floppy Disk - Generic 3 1/2

Monitor - Generic SVGA

Memory - Generic 128 MB ECC

Processor - Dual Pentium-III 450 MHZ

Mother board - SuperMicro P6DGE

Ethernet IO - 3-Com 3C905

### SOFTWARE

Operating System - Microsoft NT Server 4

*downlink* Figure 49

*Example* Satellite ~~link~~ system equipment list

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Video/audio content

GeoCast Broadcast Center

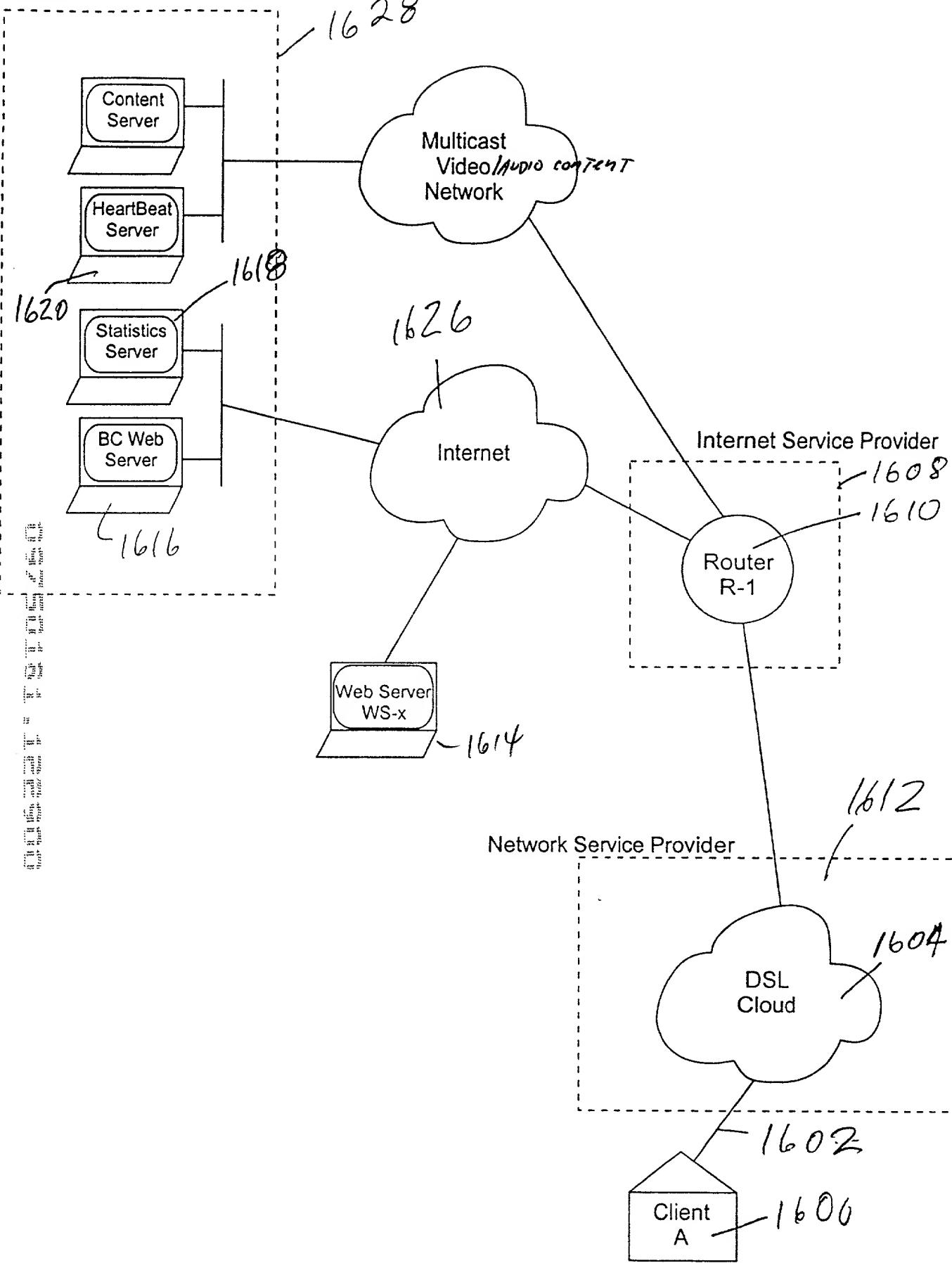


Figure 50  
Example National Video Distribution Architecture

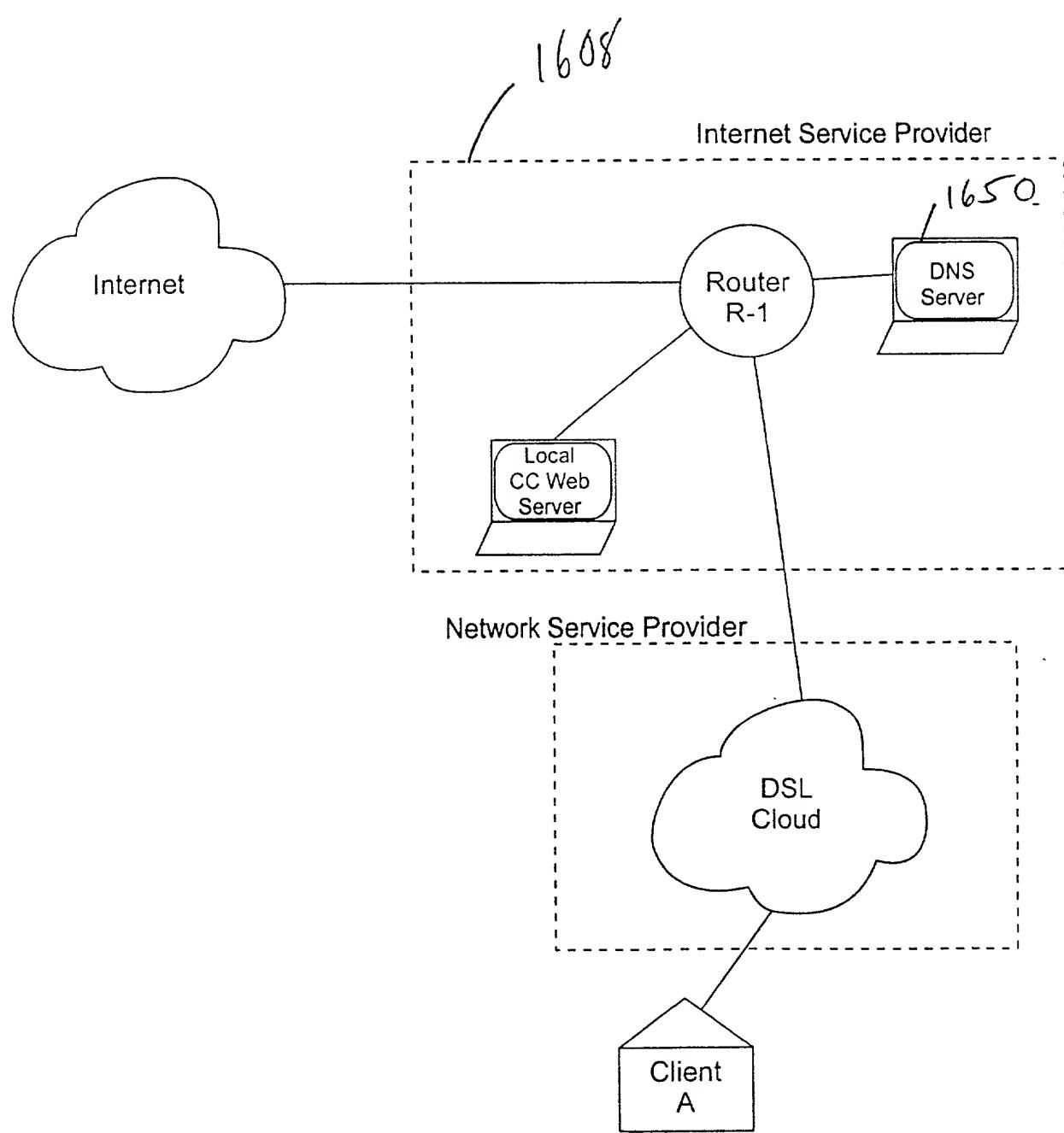


Figure 51  
Example Configuration for Local Co-Branding of National Content

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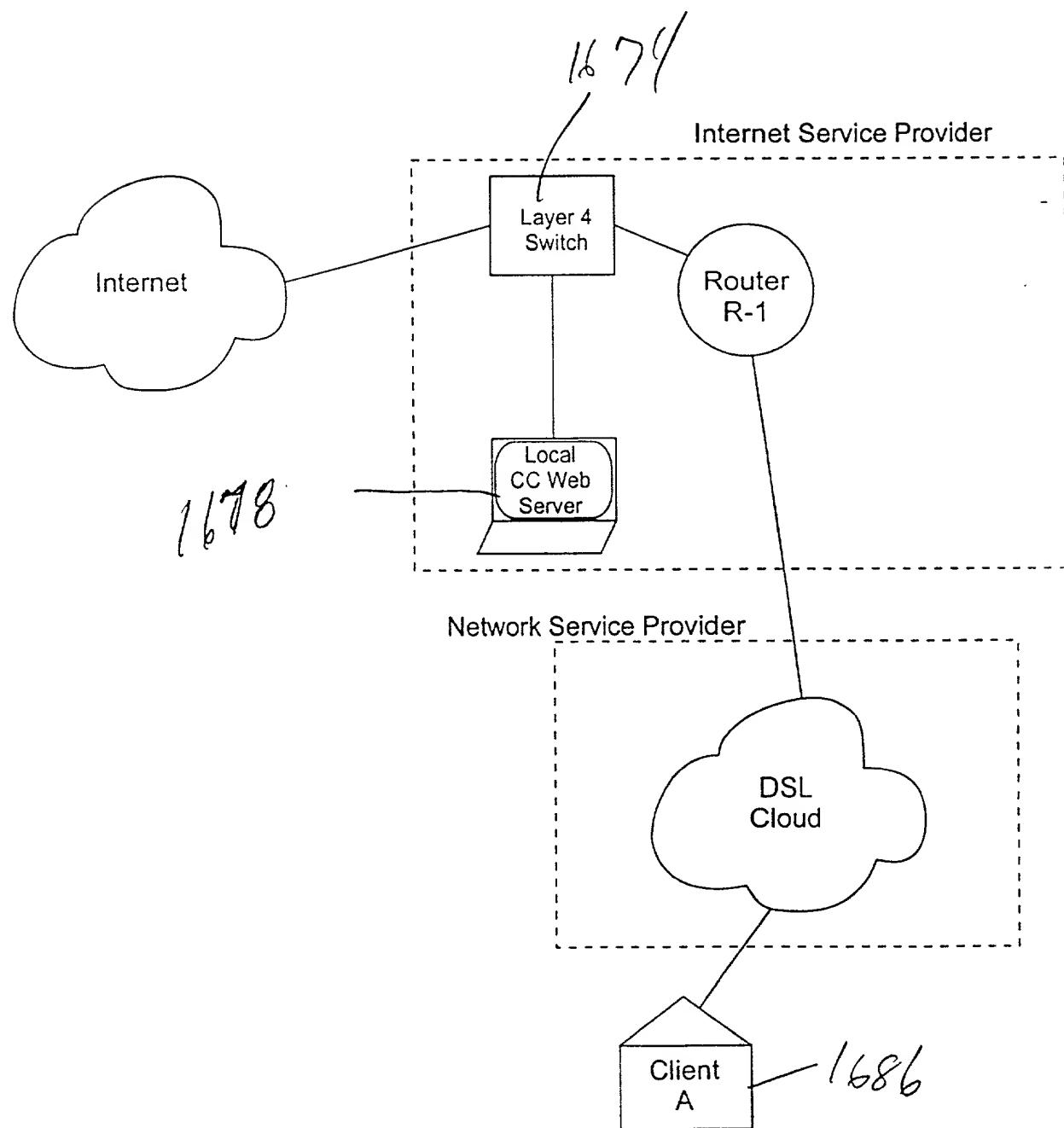


Figure 52

Example configuration for Local Co-Branding of National Content

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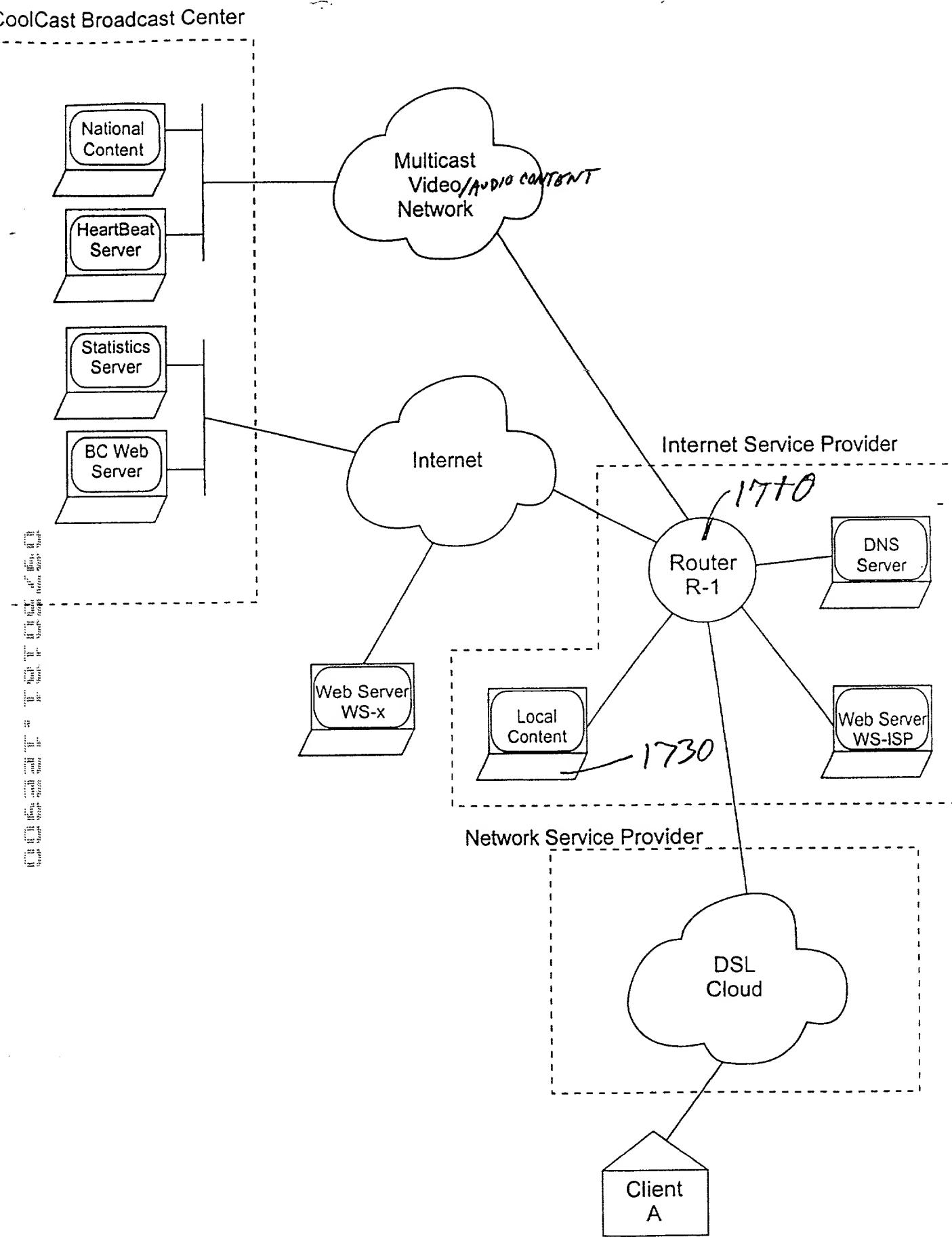
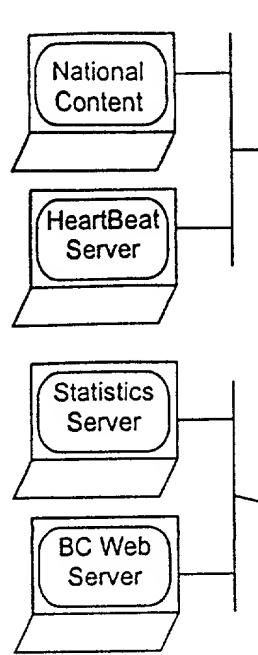


Figure 53

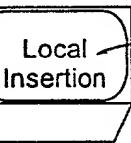
## Example Configuration for Local Content Insertion with Local Co-Branding

## CoolCast Broadcast Center



Multicast  
Video  
Network

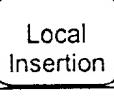
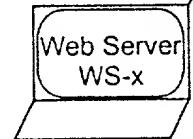
Internet Service Provider



1832

Internet

Router  
R-1



1833

Network Service Provider

DSL  
Cloud



Figure 54

Example configuration for Local Content and Ad Insertion with Local Co-Branding

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